

PACIFIC PULP *and* PAPER INDUSTRY

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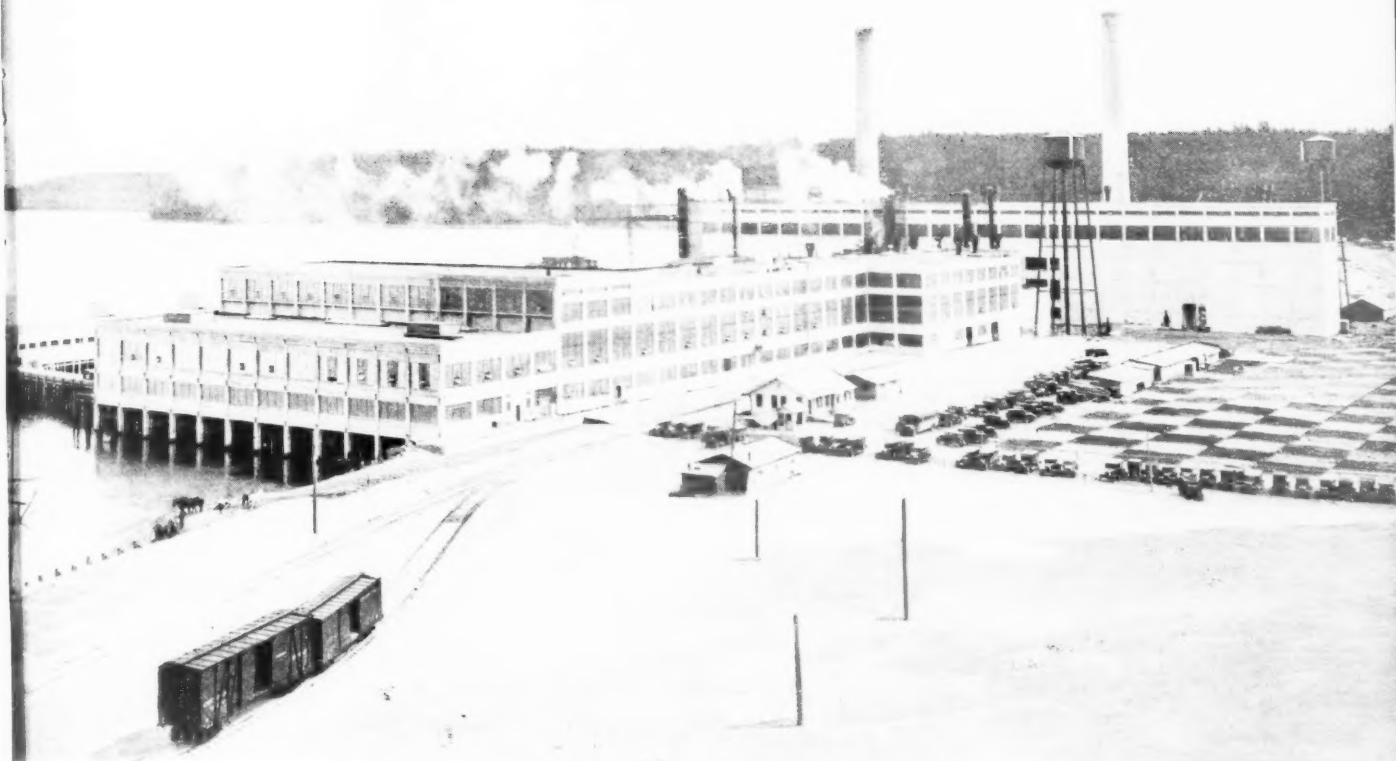
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JUN 21 1929

Volume 3
Number 7

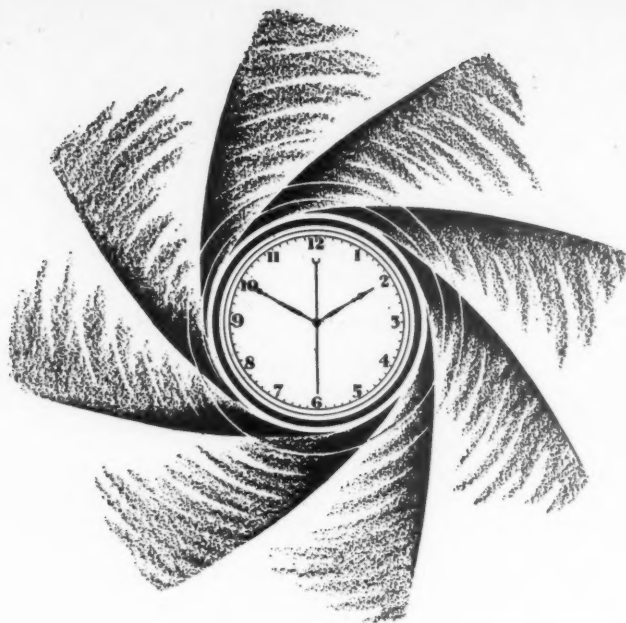
JUNE, 1929

\$4.00 Per Year
Single Copies, 35 Cents



PORT TOWNSEND, WASHINGTON

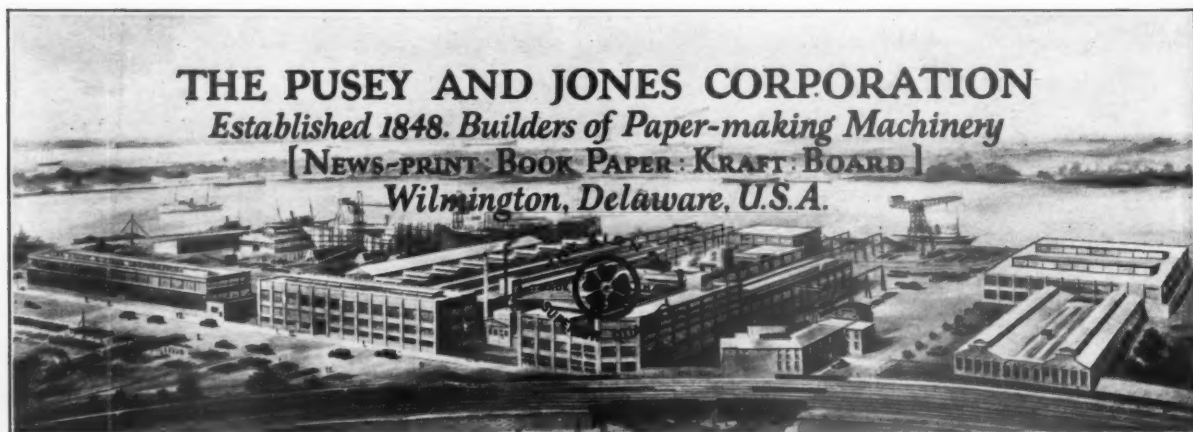
The National Paper Products Company has now put into operation the second unit of its 200-ton Kraft pulp and paper mill.



“Split Seconds”


Men may work by the hour and get paid by the week; but in the paper industry it's machines that are the real money-makers. What they can do in a split-second fixes the out-put . . . and the revenue of your plant.

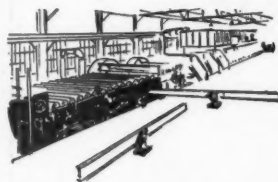
An inch or two wider . . . a foot or two faster . . . and you're miles ahead!



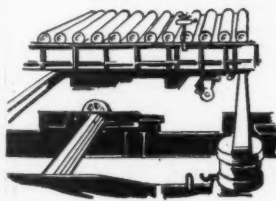
Pacific Pulp & Paper Industry is published once a month—except in March, when publication is semi-monthly—at 71 Columbia St., Seattle, Wash. Subscription: U. S. and Canada, \$4.00; other countries, \$5.00. Entered as second class matter May 26, 1927, at the Postoffice at Seattle, under the Act of March 3, 1879. Vol. 3, No. 7, June, 1929.

Wire Changing *a routine matter*

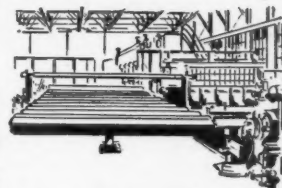
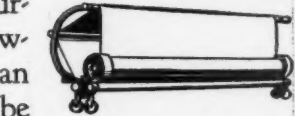
 ONE of our officers recently called on a big paper mill executive. This man immediately stated that he was not interested in time-saving as he had plenty of help available for making wire changes without incurring any extra expense to him. The Beloit Removable, however, impressed him from an entirely different angle than mere time-saving. The fact that the expensive Fourdrinier part had to be taken apart and put together again for each wire change was reason enough for adopting the Beloit Removable. And when you think of it, isn't it a mighty good reason? The most expensive part of a papermaking machine cannot possibly be dismantled time and again without causing serious injury sooner or later. There is the abuse on the rolls and bearings; the difficulty of securing true and perfect alignment; lifting the heavy breast roll, wire rolls,



suction boxes and savealls is a Herculean task for any crew — not to say anything of the ever-present danger of dropping any of these parts and injuring them. And why run the risk of crimping a new wire before you can use it? There is no necessity for putting expensive equipment to such hazards, nor is there, in this enlightened age, any reason for putting your man-power to such tasks of pure drudgery. With the Beloit Removable seven men or less will ordinarily put on a new wire in an hour or less without the use of special crews, cranes or "cigarette holders." The alignment of the rolls will not be disturbed one iota; your savealls can be full length of the wire and need never be



handled at all; nor will the suction boxes be disturbed or handled. All these parts stay in place and are not moved when changing wire on the Beloit Removable. Moving the table out as a complete unit makes wire changing a routine matter, a simple, quick and easy operation done in an hour's time or less.



The Removable Way is the Modern Way

BELOIT IRON WORKS, BELOIT, WIS., U.S.A.

The BELOIT



When writing to BELOIT IRON WORKS please mention PACIFIC PULP AND PAPER INDUSTRY

Crane valves, tilt traps and separators serve all divisions of any industry



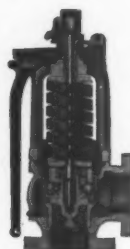
Gate Valve No. 33-XN

A new cast steel gate valve, with outside screw and yoke. Steam working pressures up to 300 lbs. and temperatures to 750° Fahrenheit. See Circular 192.



Stop Check Valve No. 28-E

Straight Y automatic stop check valve. Extra heavy. Ferrosteel body and yoke. Steel stem. Disc and renewable seat of Crane hard metal. See folder A. D. 5.



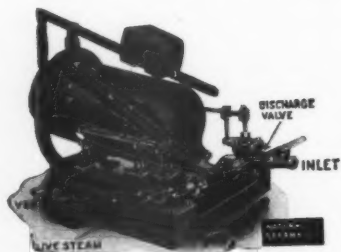
Pop Safety Valve No. 1117

One of a line of outside spring and yoke pop safety valves. Ferrosteel body; brass or monel metal seat. Pressures up to 250 lbs. See Catalogue 51, page 189.



Globe Valve No. 382-E

A globe valve to withstand severe service on lines where there is danger of wire drawing. Renewable Nickel alloy discs and seat rings. See Circular 200.



Tilt Trap No. 100

Three-valve trap for use as lifting, vacuum or metering trap. Especially adapted to lines of varying pressures. See Circular 164, "Condensation."



Steam Separator No. 07

Baffle plate at angle for ready separation. Working pressures up to 125 lbs. Vertical separator of same design also provided. See Catalogue 51, page 232.



Tilt Trap No. 30

Non-return trap. Discharge valve on outside, easily accessible, with an area 50% greater than the area of the inlet pipe. Circular 164, "Condensation."

Cut-Out Valve No. 36-E

Automatic double acting non-return and emergency cut-out valve. Extra heavy. Ferrosteel body, Crane hard metal seats and discs. See Circular 51, page 216.



Relief Valve No. 386-H

A back pressure and exhaust relief valve. Spring loaded type. Iron body. Brass seat and disc. For back pressures higher than usual. See Catalogue 51, page 244.

Back of these materials stand 74 years of experience.

CRANE

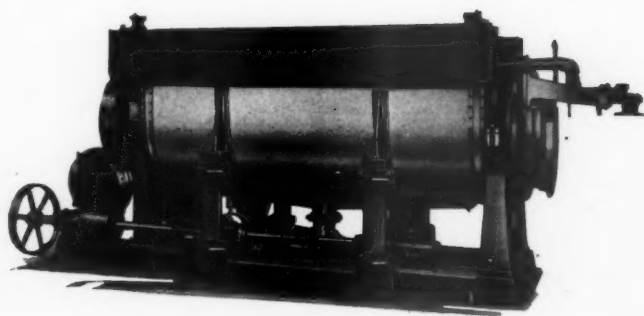
GENERAL OFFICES: CRANE BUILDING, 836 S. MICHIGAN AVENUE, CHICAGO

NEW YORK OFFICE: 23 W. 44TH STREET

Branches and Sales Offices in One Hundred and Eighty Cities

Highest quality
Greatest capacity
Lowest screening
cost per ton ~

Hundreds of paper makers
will tell you — that means



The screen that is always up-to-date

BIRD
MACHINERY

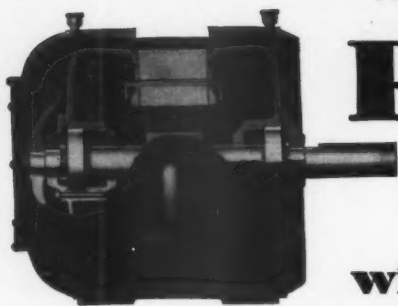
The
**BIRD
SCREEN**

BIRD MACHINE COMPANY

South Walpole : : Massachusetts

3041

When writing BIRD MACHINE Co. please mention PACIFIC PULP AND PAPER INDUSTRY.



Permanent Protection

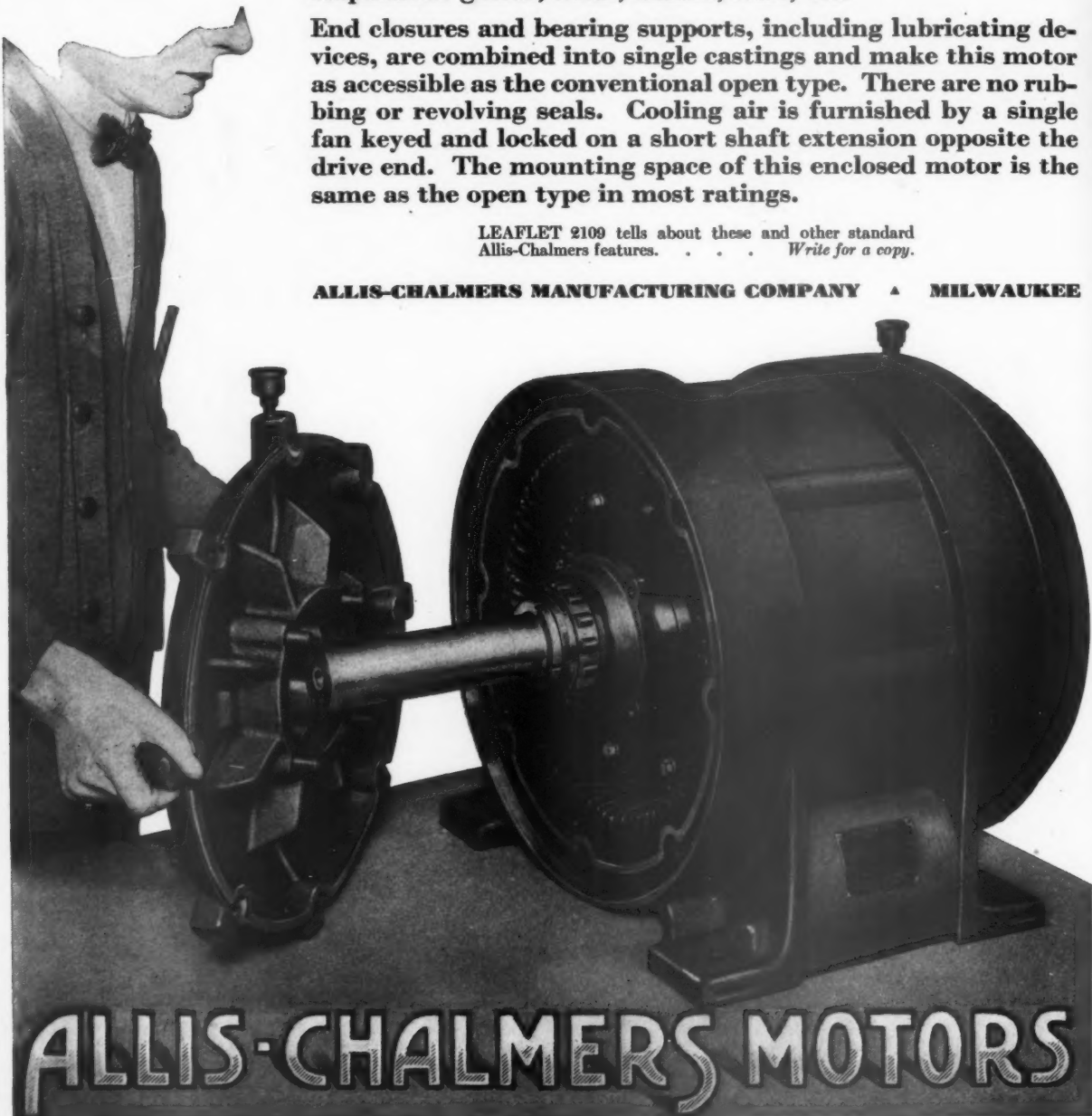
without sacrificing accessibility

... that was the thought in mind when the Allis-Chalmers type "ARZ" motor was developed. The active parts of this motor are completely enclosed, protecting the stator windings and the rotor — those parts that are subject to injury — from sulphurous gasses, acids, alkalis, dust, etc.

End closures and bearing supports, including lubricating devices, are combined into single castings and make this motor as accessible as the conventional open type. There are no rubbing or revolving seals. Cooling air is furnished by a single fan keyed and locked on a short shaft extension opposite the drive end. The mounting space of this enclosed motor is the same as the open type in most ratings.

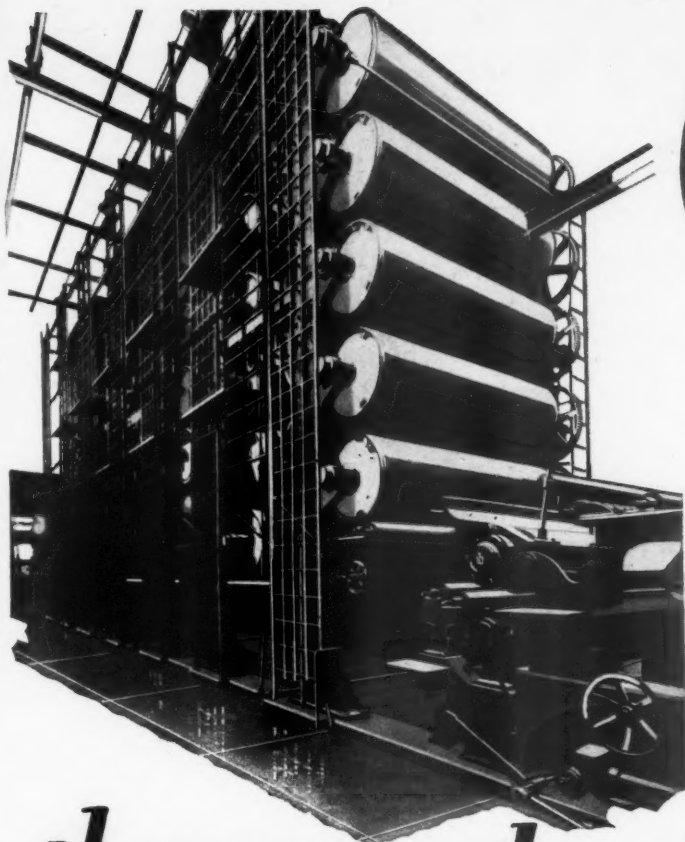
LEAFLET 2109 tells about these and other standard Allis-Chalmers features. . . . Write for a copy.

ALLIS-CHALMERS MANUFACTURING COMPANY ▲ MILWAUKEE



ALLIS-CHALMERS MOTORS

When writing to ALLIS-CHALMERS MFG. Co. please mention PACIFIC PULP & PAPER INDUSTRY



They're saving their owners thousands of dollars every year —

*Vertical Dryers on all three machines at
the Richardson Company, Lockland, Ohio*

This mill started with a "try-out" installation some twelve years ago. Since then they have equipped all three of their machines with Vertical Dryers. They are operating today with a grand total of 232 rolls in Vertical order.

Obviously the Richardson Company is "sold" on Vertical Dryers—otherwise why would they make them standard equipment on all three of their machines? The answer follows:

They were able to increase their drying capac-

ity without taking over additional floor space.

They were able to eliminate the vapor pockets between the rolls, dry faster, dry more uniformly from edge to edge, and do it on considerably lower steam pressure.

They were able to save money on their coal bills because of the reduced steam pressure required.

Have us figure on increasing the capacity of your dryer section. The benefits will soon pay the bill.

THE BLACK-CLAWSON COMPANY, HAMILTON, OHIO

Operating Shartle Brothers Machine Co., Middletown, Ohio

Export Office: 15 Park Row, New York City

BLACK-CLAWSON
VERTICAL  DRYERS

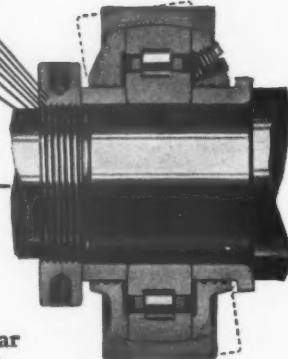
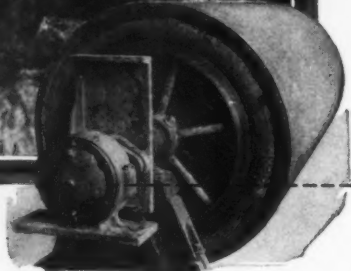
Built with Machine-Tool Accuracy

When writing to BLACK-CLAWSON Co. please mention PACIFIC PULP & PAPER INDUSTRY



Drive side of Cylinder Machine in plant of R. B. McEwan & Son Company, Whippany, N.J., showing installation of Norma-Hoffmann Precision Roller Bearings to Cylinder Moulds. Note the absence of power drive

Where NORMA-HOFFMANN Precision Roller Bearings eliminated Cylinder Mould Drive



This Self-Aligning Norma-Hoffmann Precision Roller Bearing has closely fitting side plates to retain lubricant and keep out water

TROUBLES experienced with bevel gear drives for the cylinder moulds of the R. B. McEwan & Son's machine led them to investigate the possibility of doing away with the drive by fitting the cylinder moulds with anti-friction bearings.

An investigation and one installation by the Watson Machine Co., of Paterson, N.J., quickly demonstrated that NORMA-HOFFMANN Precision Roller Bearings so reduced the journal friction that the moulds could be driven by the felt alone.

Later, all of the moulds were so equipped. They have been running for three and a half years in twenty-four hour service. In addition to the elimination of the power drive and its maintenance, it was found that felt life was greatly increased. Lubrication costs were reduced. Shutdowns for bearing repairs became practically unknown. Due to the design of the bearings and their housings, water is kept out and there is no leakage of lubricant.

Norma-Hoffmann engineers have had extensive experience in the applications of bearings in the Paper Industry. They can help you select the most economical bearing for your needs. There is a Norma-Hoffmann for every load and speed condition.

Write for Catalogs,
No. 905 on Ball Bearings,
No. 904 on Roller Bearings,
No. 917 with engineering
data, sizes, ratings etc.,
on the complete line

NORMA-HOFFMANN

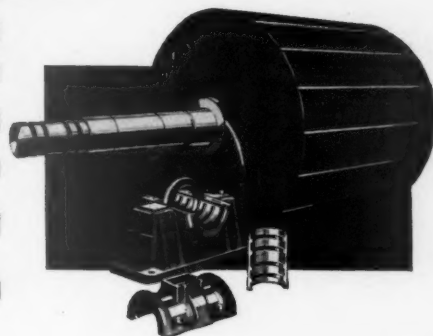
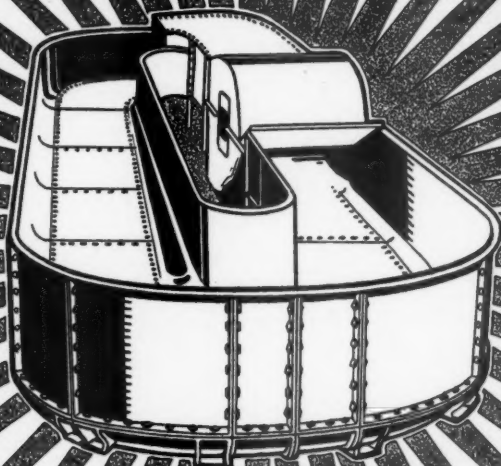
PRECISION BEARINGS

NORMA-HOFFMANN BEARINGS CORPORATION • STAMFORD CONN.

NB-965

BREAKER BEATERS

of the
new type



Shartle Breakers with metal tubs—cast iron bottoms and steel boiler plates at roll sides. Cast-Steel-Spiders mounted on 12 inch solid forged steel shafts. The concrete tub is passing.

That's part of the story and it will pay you to learn the rest. Shartle Breakers are coming through sturdier and better than ever before.

Nothing else a mill can install ever pays dividends to equal those realized from its Shartle Breaker because a Shartle Breaker invariably saves enough on labor alone to return its cost in a little while—in six months in some cases.

Little wonder that no other make of breaker has ever permanently replaced a Shartle, but that Shartle Breakers have replaced one or many of every other well known make.

**SHARTLE BROS.
MACHINE CO.**
Middletown, Ohio

Export Office—
15 Park Row
New York City

SHARTLE BROTHERS

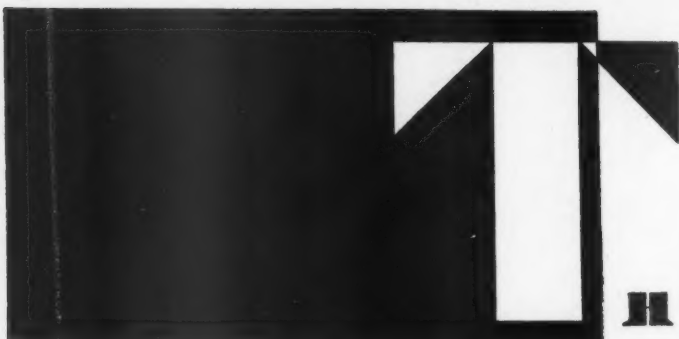
DIVISION OF THE BLACK-CLAWSON COMPANY

Shartle



Breakers

When writing to SHARTLE BROS. MACHINE CO. please mention PACIFIC PULP AND PAPER INDUSTRY



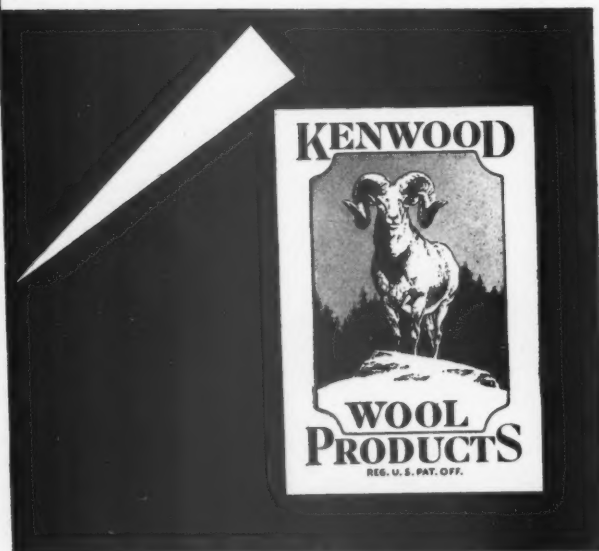
**THE GREATEST
FORWARD STEP
IN FELT ECONOMY
IN A DECADE !!**

The result of progressive,
scientific development in
**KENWOOD TANNED
FELTS**

**THE NEW KENWOOD
TANNED BOARD FELT
FOR TOPS-BOTTOMS-PRESSES**

These Felts incorporate a NEW method of yarn construction that neither increases the weight nor bulk but that adds TREMENDOUSLY to the STRENGTH, retention of OPENNESS and LIFE.

These advantages, in addition to the Kenwood Tanning Processes, give the Board Mill greater water-removal at LESS cost per ton, as well as unequalled FINISH.



F. C. HUYCK & SONS

KENWOOD MILLS, ALBANY, NEW YORK

KENWOOD MILLS LTD., ARNPRIOR, ONTARIO, CANADA

KENWOOD FELTS

When writing to F. C. HUYCK & SONS please mention PACIFIC PULP AND PAPER INDUSTRY

Here's a new Doctor you can adjust with a screwdriver

[PATENT APPLIED FOR]



PERFECT CONTACT all across the roll means clean rolls, —better sheets,—and time and money saved.

Now you can equip your breast rolls, press rolls, dryers and calenders for this new Doctor has a thin flexible blade that maintains perfect contact without excessive friction.

Adjustment is made on the machine—with a gauge (which we supply) and a screwdriver (which you supply!). The thin blade itself is of metal suitable for the surface it is to clean. It is mounted on the Doctor-back, a rigid angle beam journaled at each end, and is reinforced with two flexible spring leaves. The pressure at any point can be increased or decreased by moving the pressure washer up or down (see illustration).

No peening, filing or grinding. The adjustment is a matter of only a few minutes. Less power to operate.

Simple adjustment of Doctor-back, with hand or electric control. Let us estimate on complete Doctor equipment for you.

HAND and
ELECTRIC
CONTROL



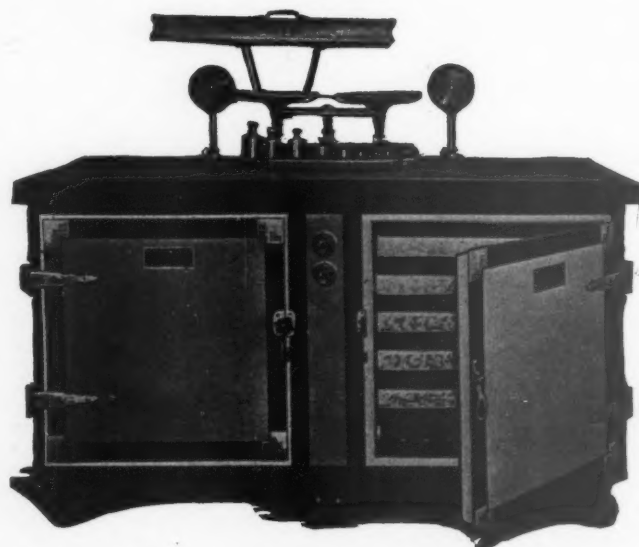
Laminated FLEXIBLE DOCTOR with adjustable blade

When writing to RICE, BARTON & FALES, INC., please mention PACIFIC PULP AND PAPER INDUSTRY

Accurate Equipment for Testing the Moisture of Your Pulp Will Save You Thousands of Dollars

THE WILLIAMS STANDARD PULP TESTING OUTFIT

Conforms in every detail with the Official Method for the Sampling and Testing of Pulp as approved by the Technical Association of the American Pulp and Paper Industry, the Canadian Pulp and Paper Industry, the American Woodpulp Importers Association, etc.



*New Horizontal Model
Work-Table Top, Separate Compartments, Quicker Drying*

FEATURES

OVEN—Double walled, electrically heated, with thermostat control.

SAMPLE TRAYS—Removable for weighing hot samples while covered.

THERMOMETERS—High grade six-inch dial form, one in each compartment.

SCALES—Accurate balances with brass weights, counterpoised tray holder and cover.

It will pay you to write today

THE WILLIAMS APPARATUS CO., Park Place, Watertown, N.Y.

ECONOMICAL SUPER-CALENDERING

with Westinghouse Dual-Frequency Drive

YOUR super-calender operators can do their best work and turn out the maximum quantity of high grade calendered paper when the drudgery of speed changing by old methods is replaced by the ease of control inherent to Westinghouse Dual-Frequency Drive.

Dual-Frequency Single Motor Drive was developed and sponsored by Westinghouse to eliminate the disadvantages and limitations of mechanical and two-motor drives. Consider what the advantages of this drive would mean in your plant.

- Increased production
- Elimination of noise
- Reduced physical exertion of operators
- Increased cleanliness
- Savings in oil and floor space
- Reduced personal hazards

That Westinghouse Dual-Frequency Drive is successful in service is amply verified by the number of repeat orders.

If you are interested in increasing your super calender production by 15 or 20%, ask for further information on Dual-Frequency Drive.

Westinghouse Electric & Manufacturing Company
East Pittsburgh Pennsylvania

Sales Offices in All Principal Cities of
the United States and Foreign Countries

T 30239



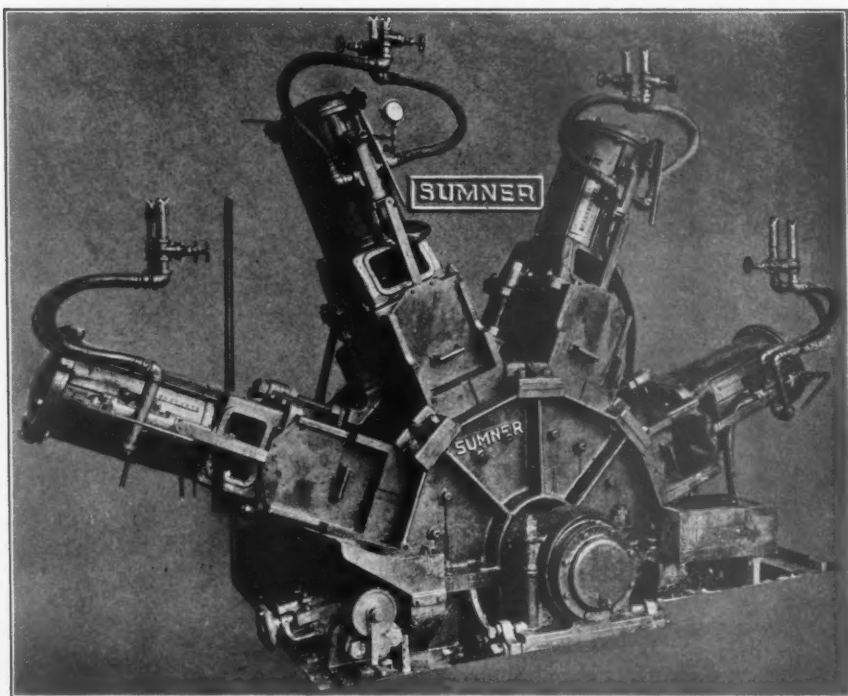
Westinghouse

When writing to WESTINGHOUSE ELEC. & MFG. Co. please mention PACIFIC PULP & PAPER INDUSTRY

SUMNER

Four Pocket Pulp Grinders

The Same Now in Operation in the Columbia River Paper Mills, Vancouver, Washington



Machine is of heavy design having rigid webbed sides on large base.

Cylinders are 16-inch bore, brass-lined and are fitted with special three-way valves.

Pistons have special flexible joint connection to rods and pressure feet.

Pockets are adjustable by large bolts to take up for wear on stone, and openings are provided with sliding steel doors.

Arbors are of forged steel fitted with case steel flanges with bronze screw bushings.

Bearings may be furnished either lined with babbitt or lignum vitae or fitted with heavy duty Hyatt Roller bearings.

Grinder is fitted with geared screw device for turning stone.

We also build other machinery for pulp mills and chip plants.

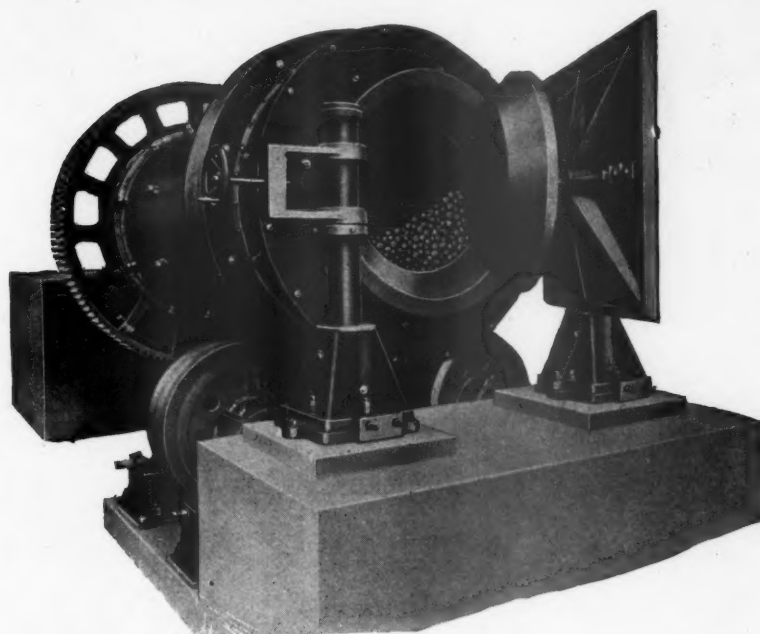
Let Us Figure on Your Requirements

SUMNER IRON WORKS

Factory: Everett, Washington

Canadian Shops: Vancouver, B. C.

When writing to SUMNER IRON WORKS please mention PACIFIC PULP AND PAPER INDUSTRY



SAVINGS In the New Beater Room

*... in building space
... in motors and settings
... in piping arrangements*

TO those designing new paper or pulp mills, the Marcy *Open End* Rod Mill offers these installation advantages:

A point well worth keeping in mind is that because of the *lower* pulp line permitted by the Marcy *Open End* **Feature** thicker pulp consistencies can be used. This results in less cutting of the fibers.

Capacity for capacity, a saving in floor space of 60 per cent over batch beaters and Jordans.

A reduction of 50 to 75 per cent in the aggregate power requirements, thus simplifying drive requirements.

One set of feed and discharge facilities, thus reducing costs for piping, fittings, etc., for such purposes.

And coupled with these installation advantages are the proven operating advantages of better stock at less cost. That's why the popularity and use of the Marcy *Open End* Rod Mill as a beating unit is growing.

Bulletin 75 gives the information you need for laying out preliminary plans. Send for a copy.

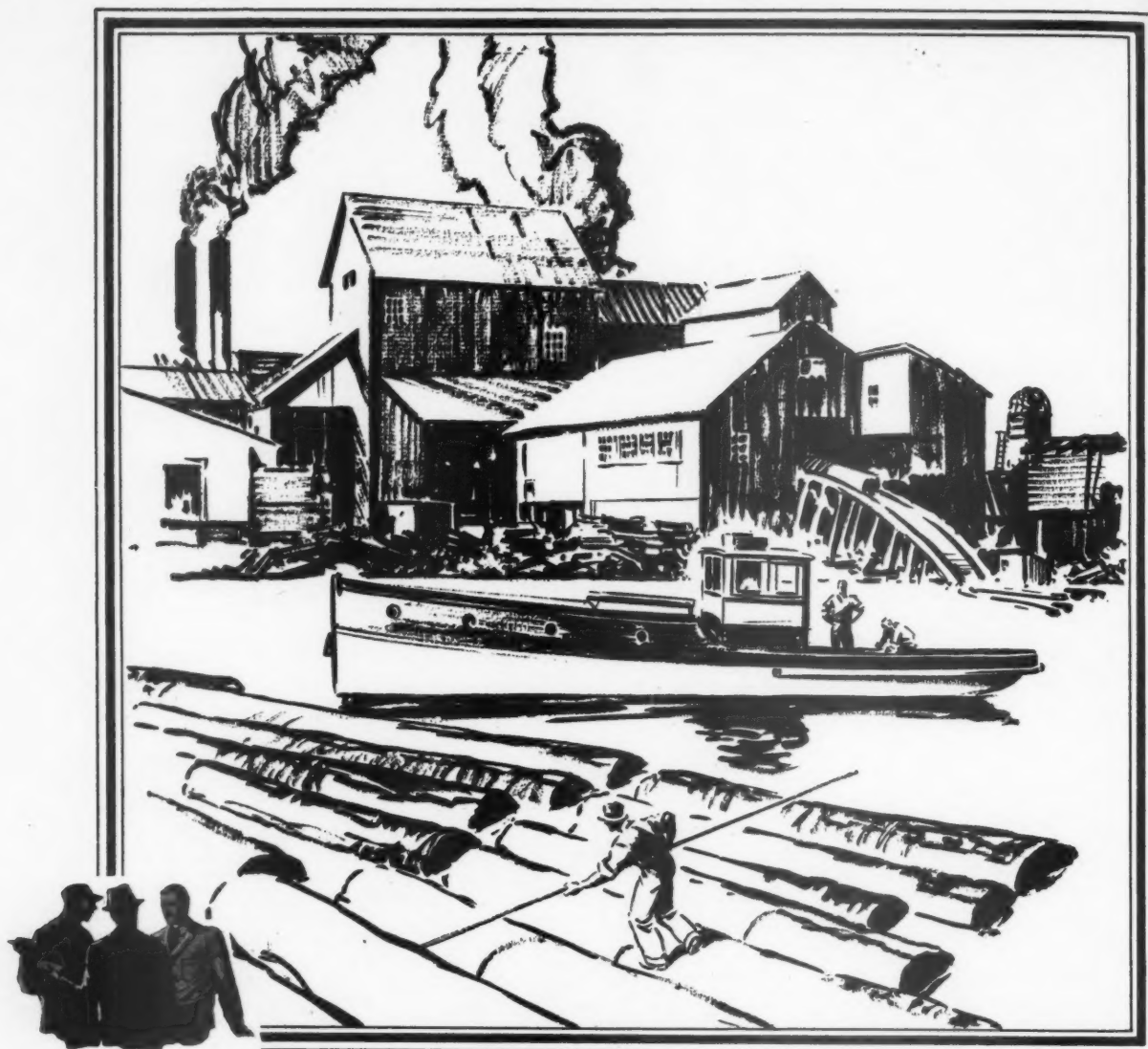
**The MINE and SMELTER
SUPPLY COMPANY**

DENVER

NEW YORK

Licensee under the Marcy Rod Mill Patents

Manufactured in Canada by William Hamilton Limited,
Peterborough, Ontario



A "first sale" was all he ever made

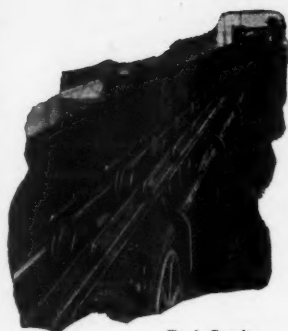
ONE of the Shell field men sold a Northwest mill two five-gallon cans of Shell Air Compressor Oil nearly nine months ago. It was good oil, as all Shell products are. But the thing that made it many times better than any oil in the place was quick delivery.

That compressor oil was needed *quickly*. And the Shell man phoned, intercepted a delivery truck already en route, had it "borrow" the order from another mill that was well supplied. Four hours later the cans were set down at the mill storeroom.

That field man has never made another sale to this mill. He hasn't had to. The superintendent sends in his orders direct to the Shell depot or gives them to the delivery man when he calls.

"Selling", as it is usually defined, isn't a function of Shell field men. They are supposed to be helpful, to give lubrication advice and service. The system seems to work satisfactorily, since seventy or eighty per cent of the mills are Shell users!

SHELL MILL LUBRICANTS



Peck Carrier



SS-850 Chain for suspending and operating barking drums

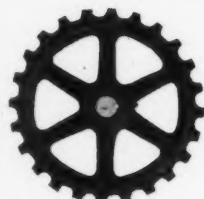
"C" Class Combination Chain

"400" Class Chain

"RC" Class Chain for power transmission



Belt Conveyor



FLINT-RIM Sprocket



"S" Spur attachment



Plain Bearing



HEXTOP Grease Cup



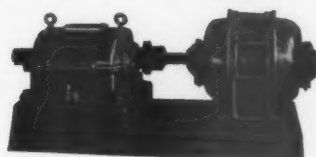
Link-Belt Crawler



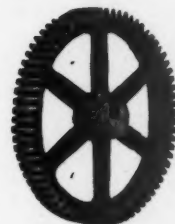
Channel-top sorting-table conveyor, for handling logs from barking drums



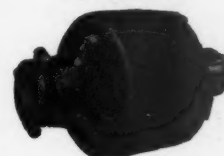
Link-Belt Silent Chain Drive



Link-Belt Herringbone Speed Reducer (Sykes tooth form)



Gears of all kinds



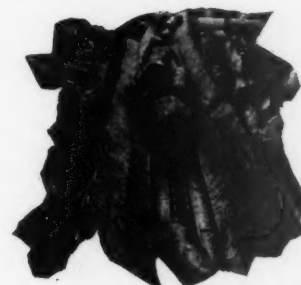
Friction Clutch



Malleable Iron Safety Collar



Style "DS" Take-up



Chain Conveyor handling logs

3436

Everything for Handling Materials, and Driving Machinery

EVERY mill should use the new 1088-page Link-Belt General Pricelist Catalog 500, which completely covers in list prices and descriptions, the machinery equipment to keep the mill going. Address the nearest office listed below.

LINK-BELT COMPANY

Leading Manufacturers of Elevating, Conveying, and Power Transmission Chains and Machinery
 CHICAGO, 300 W. Pershing Road INDIANAPOLIS, 200 S. Belmont Ave. PHILADELPHIA, 2045 W. Hunting Park Ave.

LINK-BELT MEESE & GOTTFRIED COMPANY

San Francisco 19th and Harrison Sts. Seattle 820 First Ave. S. Portland, Ore. 67 Front St.
 Oakland 526 Third St. Los Angeles 361-369 S. Anderson St.

LINK-BELT

PAPER MILL MACHINERY

JORDAN ENGINES—PUMPS—"RAINSTORM" SHOWER PIPES

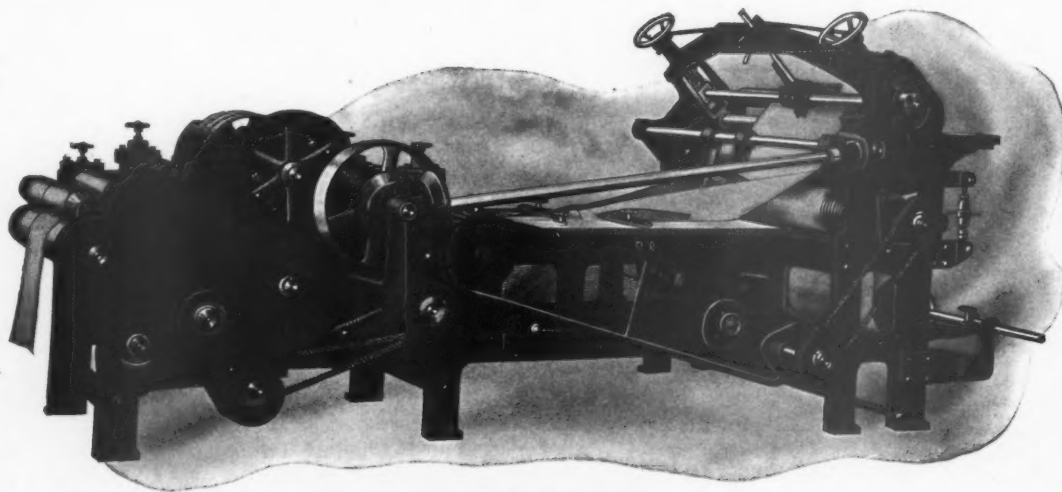
*Birdseye View
of Our
Modern Plant
Where
We Design and
Build Machinery
for the Paper
Mill*



Fourdrinier
Cylinder
Wet
Machines

The Undercut Trimmer

PAPER BAG MAKING MACHINERY



Our Heavy Duty Tuber

—ESTABLISHED 1828—

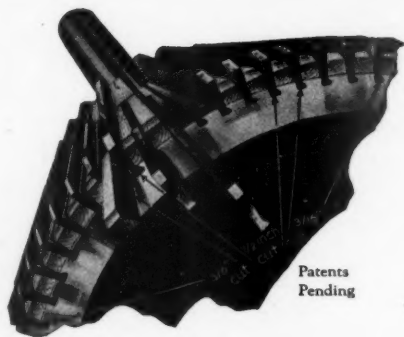
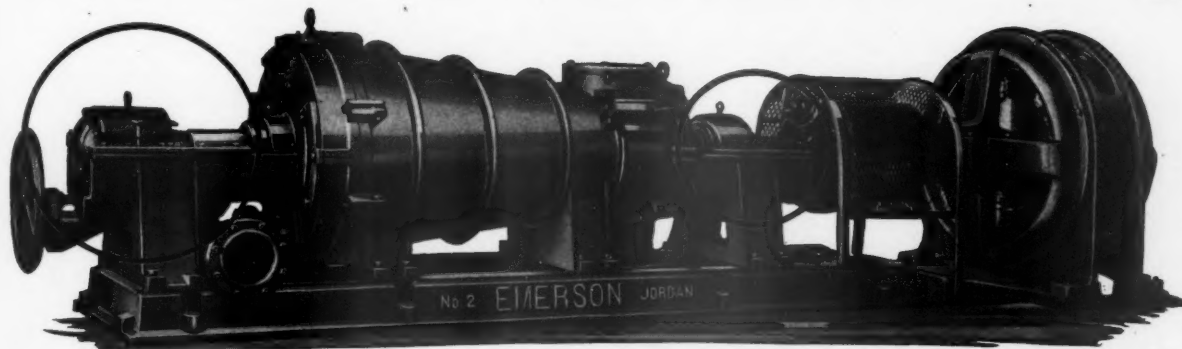
The Smith & Winchester Mfg. Co.

Dept. MFP.

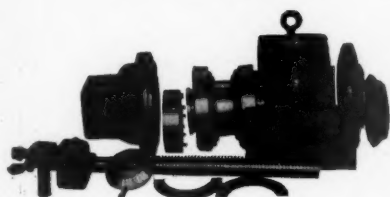
SOUTH WINDHAM, CONN.

When writing to SMITH & WINCHESTER MFG. CO. please mention PACIFIC PULP AND PAPER INDUSTRY

The **EMERSON JORDAN** *equipped with the* **Bolton BANDLESS Plug**



Showing construction of the Bolton Bandless Plug. Knives and woods cannot come out. **NOTE INVERTED WEDGES.**



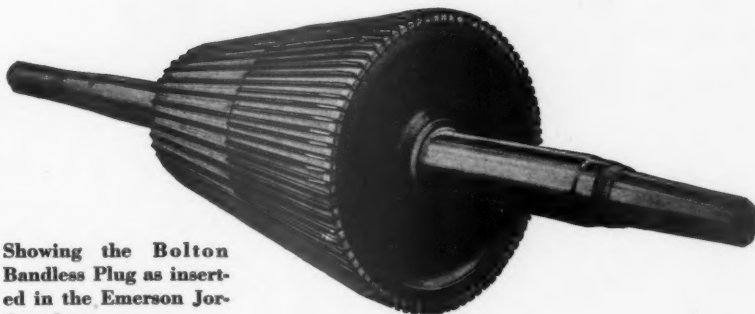
Detail of Timken end bearing which takes care of both radial and thrust.

Now every Emerson Jordan offers you the tremendous advantages of the Bolton BANDLESS Plug and Timken Roller Bearings.

These two great features put the Emerson Jordan in a class by itself for unit control, lasting satisfaction and true economy. No other Jordan has these great construction advantages.

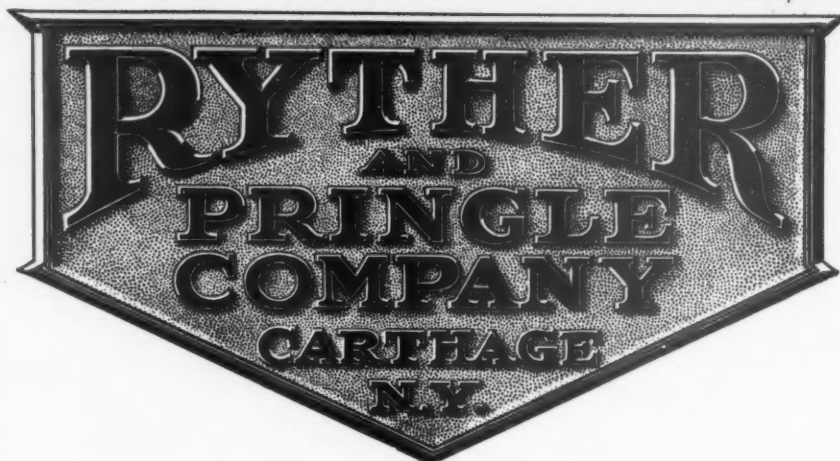
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Showing the Bolton Bandless Plug as inserted in the Emerson Jordan above.

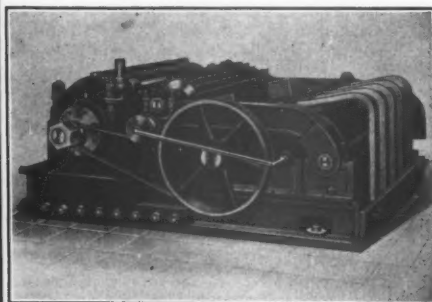
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LAWRENCE ~ ~ ~ MASSACHUSETTS
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DISCHARGING SHREDDED
STOCK DIRECTLY INTO
BEATER TUB ELIMINATING
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The shredder installation described reduces the return board broke from two machines and also prepares a liner furnish, consisting of groundwood books and papers. The shredder is mounted on an elevated platform and driven by a thirty horse power motor. This setup is able to make a two thousand pound furnish in twenty minutes. Excessive peak loads on the beater drive are eliminated because the stock is delivered into the beater tub in uniformly fine pieces which readily absorb water and are quickly repulped.

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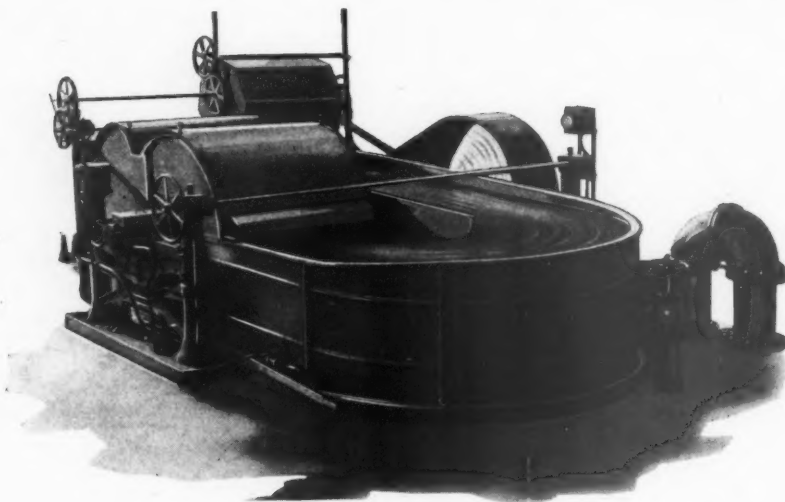
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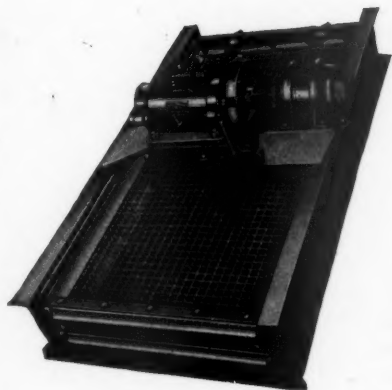
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PORT TOWNSEND CHIPS ARE LEAHY SCREENED



The LEAHY equipped chipping plants supplying the new craft mill of the NATIONAL PAPER PRODUCTS COMPANY at Port Townsend, Washington, are located at the mills of the Charles R. McCormick Lumber Company at Port Gamble and Port Ludlow.

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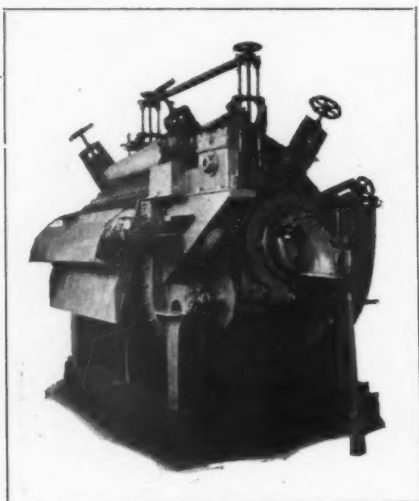
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Manufacturers and Engineers of Conveying, Screening, Elevating and Transmission Machinery

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. . . stock of uniformly high density
 retention of finest fibers
 reduction of alum
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OLIVER High Density Thickeners deliver stock of uniform consistency. This may be set and held at 20%, 25%, or even higher . . . in fact, at any point best suited for bleach work.

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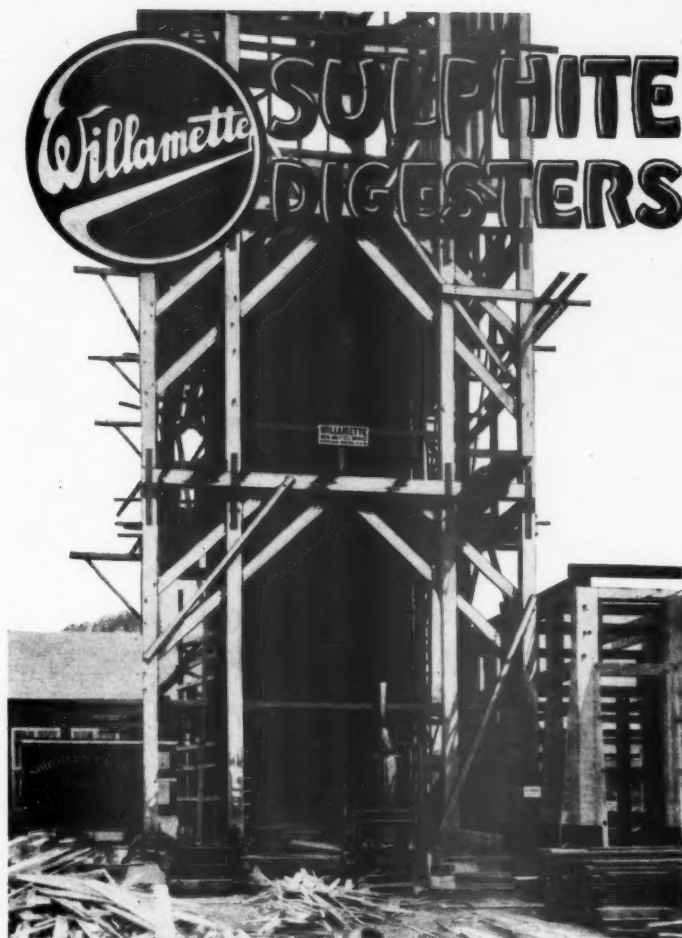
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**THE PACIFIC COAST JOURNAL FOR PRODUCERS, CONVERTERS,
AND DISTRIBUTORS OF PULP, PAPER, AND BOARD.**

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Vol. 3

JUNE, 1929

No. 7

Port Townsend ---

A Story of the Pacific Coast's

Newest and Biggest Kraft Mill

PORT Townsend experienced a most hectic boom in the late "eighties." It was in those years that the transcontinental railroads were pushing out their lines to the Pacific Northwest and great was the speculation regarding western terminal cities. Many thousands pinned their faith and fortune on Port Townsend because of its commanding position at the northeast corner of the Olympic Peninsula at the entrance of Puget Sound. A magic city arose in the years 1888 and 1889. Port Townsend was called the "key city" by those enthusiasts of the late "eighties." A railroad was pushed south. Then came a series of international events which reflected sadly upon Port Townsend. The bubble burst and left only a ghost city and ruined hopes. The doldrums settled upon Port Townsend and in this state of coma it rested until 1927.

In 1927 a new element cast its shadow upon the ghost city. There was a rapid quickening of interest as a rumor circulated that the Zellerbach Corp. executives were looking with some favor upon Port Townsend as the possible location of a pulp and paper mill. It developed then that, other conditions being favorable, if a sufficient supply of industrial water could be developed Port Townsend had an excellent opportunity to secure a fine modern pulp and paper mill which would give the community a real sizeable steady payroll.

A number of very active citizens in Port Townsend took hold and some things which approached the dramatic transpired. E. A. Sims, one of Port Townsend's leading citizens and a widely known character of the Pacific Northwest, more or less took matters in his hands and put Port Townsend quite forcefully before the Zellerbach group. Followed interviews and conferences in which the paper interests virtually agreed that if Port Townsend would build an industrial water system a mill would be located at Port Townsend.

Building of a water system involved some legal handi-caps such as a bond issue, however, and such matters often mean much delay. Mr. Sims and his cohorts made a canvass of Port Townsend and lined up citizens almost 100% behind the bond issue. A petition was circulated in which virtually all of the eligible voters of Port Townsend affixed their signatures in favor of building an industrial water system backed by bonds of the community. This entire petition was sent in a 3,000-word telegram to the Zellerbach headquarters in San Francisco.

Port Townsend affixed their signatures in favor of build-

Legal formalities followed in which Port Townsend voted officially for the bond to finance a 31-mile industrial water system tapping the Quilcene River to bring a daily flow of some 14,000,000 gallons of water into Port

Townsend. The formal bid of National Paper Products Co. for the purchase of the water supply was duly accepted.

With legal hurdles cleared, events transpired in rapid fire order. Brubaker Aerial Surveys of Portland supplied preliminary data for the engineering crews and construction of the 31-mile pipe line began with a vigor.

In the early fall of 1927 the pile drivers began a day-and-night thumping on a tideland site about three miles south of the city of Port Townsend and the world was informed that the National Paper Products Co., division of the Crown Zellerbach Corporation, would build a 100-ton kraft pulp and paper mill for the manufacture of kraft test liners. The work was to be handled by V. D. Simons, consulting engineer of Chicago, who has supervised the engineering and construction of a number of major mills on the Pacific Coast in the past few years.

Such was the start. Today Port Townsend is a city



The 31-Mile Pipe Line Bringing Water to Port Townsend Winds Through Some Rugged Country

with new life, a community with industrial consciousness, boasting not only the largest and most modern kraft mill on the Pacific Coast, but claiming also the largest kraft paper machine in the world, a 251-inch fourdrinier designed to operate at speeds up to 1000 feet per minute.

This calls for a bit of explanation. It will be remembered that the Port Townsend mill was to be a 100-ton unit. Such were the original plans, but before the first unit was completed and starting operations with the blowing of the first digester on October 6, 1928 plans had been laid and construction started on a new unit of similar size, exactly doubling the size of the original mill. On May 15, 1929 the paper machine in the second unit went into production, giving to Port Townsend a completed mill with a capacity of 200 tons daily.

Thus passed the ghost city of yesterday. Today we see a rejuvenated Port Townsend. In the wake of the paper mill has followed a boom in general building bringing about the addition of a number of new com-

mercial buildings and some 150 new homes. Today Port Townsend is one of the liveliest communities in the Pacific Northwest, definitely on the industrial map. Pulp and paper did it.

The new mill of the National Paper Products Co. occupies a site about three miles southwest of Port Townsend consisting of 287 acres of tidelands and land reclaimed in dredging operations. A deep water frontage permits the direct unloading and loading of the largest ocean vessels at the mill's own docks and a spur from the Olympic Division of the Chicago, Milwaukee & St. Paul Railway gives direct connection with trans-continental lines. The strategic position of the mill site at the head of Puget Sound enables it to receive by scows most conveniently, supplies of chips and hogged fuel from the many lumbering centers on the Sound.

Two Equal Units

As mentioned previously, the mill is divided into two complete units, each of 100 tons daily capacity. The completed mill covers a ground area of some seven acres and has a total floor area of about 16 acres. The buildings rest on a piling foundation and are of first class concrete and steel construction, with steel sash used in liberal fashion to provide plenty of natural light to make for the best working conditions. Something more than mere durability has been built into the mill, due regard having been paid to incorporating a bit of architectural beauty.

By referring to the photograph of the mill reproduced on the cover of this issue the general layout can be readily determined. In the near foreground is the two-story finishing room which has shipping access to railroad cars on the land side and ocean vessels from the dock warehouse on the other side. The temporary interior partition has been removed between the two machines and the department is now one large room, the dry end of the machines being of course situated at the end adjoining the finishing room. At the further end of the machine room is the beater department, and immediately beyond are the screens, deckers and other equipment for preparing the pulp for the board and the paper machines respectively.

Raw Material Handling

The long high section running at right angles to the machine room is divided into several storage bins and used for chips and hogged fuel. At the farther end of this raw material storage department can be seen a steel structure extending out over the water and supported by two steel towers. This structure carries the tracks for four P & H monorail lines equipped with electric cars and buckets for use in unloading scows of chips or fuel. Dual lines of endless belt conveyors running under the roof of this long structure serve to deliver the raw material to storage spaces or to the battery of six Kellogg digesters which are located in line in this long structure at about the center.

The two 250-foot concrete stacks of course identify the location of the power plant. The boiler plant is located immediately beyond the long storage shed, while the turbine room is situated just this side of the chip storage and between the machine room and the dock. The soda recovery furnaces and evaporators are situated immediately beyond the boiler house so that these furnaces may throw their waste heat to the main boilers. Adjacent to the recovery room is the causticizing room and chemical storage. Here is also located another dock used principally for unloading chemicals and other material supplies.



Looking Down Along the Giant 251-inch Kraft Paper Machine from the Beloit Fourdrinier End

A feature of the mill at Port Townsend is the straight line production. The mill has no wood room of its own but receives its supply of chips and hogged fuel from chipping and fuel reduction plants established in connection with a number of important sawmills located on Puget Sound and elsewhere. Some chips are also being received from a subsidiary chipping plant recently established at Neah Bay at the seaward end of the Straits of Juan de Fuca where chips are made directly from the forest. Delivery of both chips and hogged fuel to the pulp mill is by means of large scows.

The method of handling the chips and fuel is interesting and rather unique. Opposite the sea end of the chip storage house has been constructed an artificial island in deep water about 110 feet from the mill proper. This island supports the two steel towers previously referred to, which in turn support one end of the steel frame work which carries the four P & H monorail lines. Electric cars running on these rails and carrying large buckets lift the raw material and deliver it under cover to storage. From this point further distribution of the material can be made to any of several storage spaces in this long enclosed structure by means of endless belt conveyors. Since the digesters are located in this line delivery can be made directly to the chip bins over the digesters if desired. Additional unloading facilities are also provided on the dock, this equipment consisting of a stiff leg and bucket which delivers to a hopper on the dock from which point the chips are transported by belt-bucket conveyors.

As previously mentioned, the digesters are installed in the long storage shed to facilitate delivery of chips for cooking. Three Kellogg stationary forge and hammer lap-welded steel digesters were installed in the first

unit and exact duplication has been made in the second unit. Cooking is done with the Morterude indirect system of heaters and circulating pumps. In operation each set of three digesters is handled as a unit since different wood ratios are used in making test liner and in making paper. The Port Townsend mill is using both Western Hemlock and Douglas fir.

Diffuser tanks are not used. Instead, the pulp is blown into a large blow cyclone—one for each three digesters—and then passed through Oliver brown stock washers. Leaving the Oliver washers the pulp passes successively through Improved Paper Machinery Company knotters, Reed-Spafford centrifugal screens and Improved Paper Machinery Company deckers. The deckered stock is refined in a battery of Jones high speed 2,000-lb. beaters, the beater room installation for the second unit being an exact duplicate of the first unit installation. Two high speed broke beaters, one a Dilts and the other a Shartle, serving the first and second units respectively, complete the installation. Hydration of accepted stock is continued in Jones electric driven Majestic jordan, three of these serving each unit.

From the jordan the stock is finally screened in Packer plate screens for the cylinder machine, while Bird screens are employed for this purpose to pass the stock to the big paper machine. Batteries of Beloit duplex and triplex pumps are used to handle the stock throughout the process.

In the machine room department of the mill the ground floor is devoted to the installation of auxiliary equipment, while main operations are directed from the second floor. On this level are located the beaters, jordan, and other stock preparing equipment.

The first machine is used for the production of kraft



Here Are Shown a Part of the Battery of Jones High Speed Beaters Which Serve Both the Fourdrinier and the Cylinder Machines. A Part of the Latter May Be Seen in the Left Distance

test liners. It is a 130-inch seven-cylinder, board machine of the latest Black-Clawson vertical dryer type, trimming 112 inches. The cylinder machine has four main presses and 98 dryer rolls 42 inches in diameter by 146-inch base. Condensate is removed by a double separating drying system and vapors are exhausted by means of a transite hood and blower fans. The dry end of the machine is served by a two-drum up-right belt driven reel of the removable drum type and a two drum Langston winder with slitting attachments.

New Westinghouse Drive

One of the most important features of the new board machine is the Westinghouse sectional drive on the entire machine from the cylinder moulds to the rewinders. On cylinder machines it has been universal practice in the past to depend upon the first press felt to drive the cylinder mould in primary presses. Operating in this manner the felt has been required to perform not only its natural function of assisting in the formation and drying of the sheet but to operate as a belt driving the cylinder and primary presses. The Westinghouse company designed a drive for this end of the machine which would relieve the felt of the burden of driving the cylinder mould and primary presses and still maintain proper draws and proper tension in the felt between sections. The major advantages from such a drive are the greatly increased life of the first press felt, improved formation and greatly increased strength of the sheet, sustained capacity at maximum production, increased life of wire cloth covering on cylinder mould, almost complete elimination of felt stretch and the complete elimination of felt and sheet stretch between cylinder moulds and first main press.

The Port Townsend mill has the first installation of this new type cylinder machine drive and its operation is said to be highly successful.

As previously stated, the new kraft paper machine at the Port Townsend mill is the largest kraft paper machine in the United States. The dry end of the machine is of Bagley & Sewall construction while the fourdrinier is of the Beloit removable type. The ma-

chine has a 251-inch wire and is designed to run at speeds up to 1,000 feet per minute. There are 44 60-inch dryers. Timken bearings have been used to best advantage throughout the machine. The drive is of the Westinghouse sectional type. The head box and Voith inlet were supplied by the Valley Iron Works.

Largely due to the extreme size of the rolls on the new paper machine, a supplementary P & H overhead crane has been installed immediately over the reels to handle the rolls from reel to rewinder. One of the features of the Bagley & Sewall winder, which is of the high speed two-drum type, is a newly developed motor driven roll handling attachment which delivers the finished roll from the winder to the floor without the use of slings and a hoist.

The auxiliary roll handling crane is in addition to larger overhead cranes of the same type which run the length of the machine room. The P & H crane and several units of Elwell-Parker electric lift trucks transfer the finished rolls to a large roll pit and to storage or finishing room from which the finished product moves out to cars or ships.

Waste Heat Boilers

Turn now again to the digester division and follow the black liquor through the recovery system. The black liquor washed out through the Oliver washers is accumulated in large concrete pits. From here it is pumped to the recovery room by Allis-Chalmers centrifugal pumps. The black liquor is concentrated from 11 degrees Baume to 70% solids in two Buffalo vertical rapid circulation type evaporators, having a quadruple effect with one finishing pan or concentrator. The concentrated black liquor is sprayed into smelter furnaces lined with chrome brick and soap stone where the soda is recovered. The recovery furnaces are built into the back of the regular steam boilers and serve to contribute their waste heat for steam generation.

The causticizing plant is of the batch type. The equipment in the first unit includes two green liquor settling pans, one causticizer and 10 settling tanks. Concrete chests provide ample storage of white liquor. This

unit has been duplicated to serve the second, or paper mill, unit.

One Manitowoc rotary lime kiln 110 feet long by 8 feet in diameter which is installed adjacent to the causticizing plant is found sufficient for recovering lime from the sludge to serve the mill's requirements. An Oliver mud filter dewateres the lime sludge before entering the kiln.

The Port Townsend mill is self sufficient in its power requirements. In the completed two units of the mill there are installed nine Puget Sound Machinery Depot boilers with a capacity of 838 h. p. and operating at a pressure of 375 pounds.

Draft is induced by two 250-foot concrete stacks. Hoggged fuel and oil can both be fired. The power plant has been designed to get maximum energy out of the hoggged fuel with a minimum of labor. Specially constructed apron conveyors with electrical drive and speed control feed the fuel to special grates designed to give a high combustion efficiency. Control instruments enable the fireman to keep close check on the performance of the boilers, these control instruments being connected to a central board in the main mill office on which a current picture of operation is available at all times.

The generating room is equipped with three 3750 K. V. A. General Electric extraction type condensing turbo-generators and one 625 K. V. A. Westinghouse noncondensing turbo-generator. Of the three larger units one is of the single extraction type while the other two are of the double extraction type. A high fuel efficiency is secured in the mill by a studied engineering design. Fuel is fired in a fashion which aims at highest combustion efficiency, the high pressure steam is skinned for power uses and then turned to process work, heat interchange is employed extensively to prevent losses, and condensate is returned to the system through water heaters. A high station power factor is obtained by the use of synchronous motors wherever possible, particularly on jordans, beaters and other large loads.

In general, real recognition is made at Port Townsend of the fact that the power plant is a highly important unit in pulp and paper manufacture, and that efficient, modern and economical production of steam and power is just as essential as the application of modern engineering to the manufacture of pulp and paper itself.

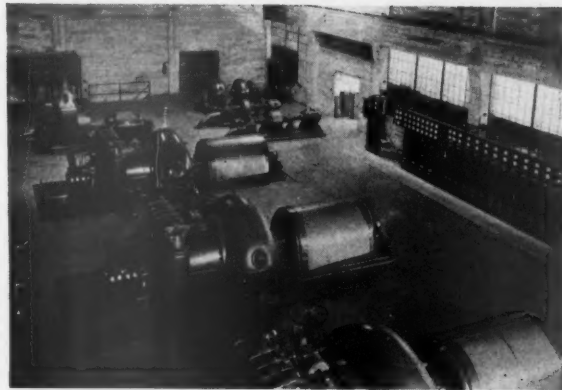
Speaking of the mill in general it has been the aim in designing to eliminate as much as possible the rule of thumb and substitute exact science and technical control. A well equipped laboratory is an important part of the mill. Recording instruments are used in many steps of the manufacturing process.

Construction of the mill came under the immediate supervision of H. N. Simpson as resident engineer for V. D. Simons. The resident manager is A. B. Lowenstein. Construction of the two units were carried out by separate contracting companies, the second unit being erected by Chris Kupplers' Sons, a firm that has erected a number of other units on the Coast.

Chipping Plants Supply Port Townsend

Back of the pulp mill is the raw material supply. Viewing the big scows, each with a capacity of 200 to 300 units, coming into the new mill at Port Townsend loaded high with pulp chips and hoggged fuel gives rise to the natural question, "Where does this stuff come from?"

A little further south on Puget Sound one finds two



High Pressure Steam and Extraction Type Turbo-Generators Feature the Port Townsend Power Plant

big lumber mills operated by the McCormick Lumber Co., one at Port Ludlow, and one at Port Gamble. They are both Douglas fir mills, and have a combined daily capacity of about 900 M feet of lumber.

It has only been within the last two or three years since the big refuse burners ceased to be a financial burden and worry at these two mills. In addition to the cost of upkeep these burners were quite a nuisance in littering the yard with cinders and dirt.

Then came the idea that a lot of refuse going into the burners could be put to some use. Result, a plant for the production of pulp chips and hoggged fuel has been installed at each mill. Today these auxiliary plants, which are operated by the International Wood & Sulphite Co., are not only bringing additional revenue to the lumber mills, but they are, in addition, providing an additional payroll at each community through the addition of workmen to condition and handle the refuse wood.

Both the Port Gamble and the Port Ludlow chipping plants were designed by Jim Brinkley of the Webster-Brinkley Co., Seattle, in collaboration with the personnel of the International Wood & Sulphite Co. Equipment was supplied by Webster-Brinkley. Some of it is of special design.

The plants are very similar in construction. The process is somewhat as follows: Sawmill waste consisting of slabs, edgings and similar pieces passes out on a chain conveyor from the sawmill to the chipping plant. Here it is picked over by a crew that takes out pieces suitable for pulpwood. The remainder passes on to the hoggged fuel plant to be reduced. The burners are still used, but very little material gets to them.

The suitable pulp pieces are sized and barked by a series of three machines of special design manufactured by the Webster-Brinkley Co. The cleaned wood then goes in a chain conveyor to Carthage chippers and then to Leahy no-blind screens, which are of special manufacture for wood screening purpose.

The Port Ludlow mill has one chipper and two screens and has a daily capacity of about 65 units of chips and hoggged fuel per 8-hour shift. The Port Gamble mill is virtually double in size. At the present time two shifts are being worked at Port Gamble.

From the screens the accepted chips are carried by belt conveyor direct to scows. An emergency storage bin is provided at each plant capable of holding about 100 units. Ten scows are kept in constant service transporting the hoggged fuel and chips to the pulp mill. Six are used for fuel and four for chips.

Leadbetter Buys Tumwater Mill

Another rumor makes good. News circulating along the grapevine telegraph during recent weeks to the effect that F. W. Leadbetter, president of several Pacific Coast mills, had purchased the Tumwater mill, was substantiated with the announcement as May closed that Mr. Leadbetter and associates had acquired control on May 21.

Joseph C. Tyler & Co., San Francisco financial house, is underwriting an issue of \$400,000 first (closed) mortgage 7% sinking fund gold bonds. The proceeds from the bond sale, together with a further substantial additional investment made by stockholders, aggregating approximately \$100,000, will be used for the retirement of the company's present plant mortgage and current indebtedness, and provide in addition adequate current working capital.

The official personnel of the company is now as follows:

OFFICERS

F. W. Leadbetter, President, Portland, Oregon.
W. H. Trindle, Vice-President, Salem, Oregon.
T. Osmund, Secretary, Portland, Oregon.
A. S. Fleming, Treasurer, Portland, Oregon.
W. P. Donnelly, Asst. Secretary, Portland, Ore.

DIRECTORS

F. W. Leadbetter, Joseph C. Tyler, San Francisco, Calif.; Arthur S. Blum, Spokane, Wash.; W. H. Trindle, A. S. Fleming, D. McInnis and T. Osmund.

Mr. Osmund was president of the Tumwater company from its inception until his resignation a few months ago. Recently he was appointed assistant general manager of the Leadbetter mills.

The Tumwater Paper Mills Co., incorporated under the laws of the State of Washington, owns and is now operating a modern paper mill situated on Tumwater Bay, near Olympia. The plant, completed in 1928, has at present a daily capacity of 50 tons of finished paper products of standard grades. The company has favorable long-term contracts covering wood supply, power and sulphite or sulphate pulp. Two artesian wells on the company's property, which have been in commercial use for many years past, have a daily flow of essential soft water approximating 2,000,000 gallons, daily, ample for the company's present capacity requirements.

Everett May Not Get Pulp Mill

Everett, Wash., has virtually been abandoned as a site for a proposed 100-ton sulphite pulp mill contemplated by E. M. Mills, vice-president of the Crown Zellerbach Corp., and unnamed associates. This declaration was made to PACIFIC PULP & PAPER INDUSTRY in an authorized statement by Mr. Mills on June 6. The site under consideration is on the Snohomish river adjacent to the sawmill of the Canyon Lumber Co. Study of the site following the original announcement of pulp mill plans made several weeks ago developed some objectionable features which brought about a reversal of plans, Mr. Mills pointed out.

Stream studies made by Washington state officials recently to consider the problem of waste liquor disposal from the proposed pulp mill revealed that there was sufficient stream flow in the main channel of the Sno-

homish to provide ample dilution. Steamboat Slough, a delta branch of the Snohomish, was, however, suggested as a better channel to carry away the waste liquors due to its more direct course to the sea, its greater depth and faster flow.

The state authorities in general approved the Canyon site with the meeting of certain disposal requirements which were essentially, the storage of liquor in impounding basins so as to discharge only on the crest of outgoing tides twice daily, the liquor to be carried to Steamboat slough.

Decision of the state officials found little favor with the Everett city officials and their attitude now is to protest and determine whether or not the city is to be permitted to use the Snohomish as an industrial stream.

Spaulding Adds Third Digester

Construction work looking to the expansion of the Spaulding Pulp & Paper Co. mill at Newberg, Oregon, was started last month. The program includes the installation of a third 15 by 49 foot Willamette digester, enlargement of the boiler room for the addition of a 300 h.p. boiler, installation of four flat screens and a three-cylinder pulp thickener. The boiler room is to be increased by one-third its present size, bringing the total dimensions up to 60 by 30 feet. It is expected that all proposed work will be completed and that increased production will be under way by October 1. Estimated cost of the improvements is placed at \$85,000.

While the third digester, if run at full capacity, would provide for an increase of 24 tons daily, it was said that its output would be limited for the present to 12 tons a day. The additional pulp tonnage will bring the mill's output up to 60 tons every 24 hours.

With the added equipment, longer cooks and higher grade pulps will be the watchword. Arrangements for marketing the added output have already been made, Charles K. Spaulding, president of the company, said.

Operations of the plant when the improvement program is completed will not add materially to the overhead, although the hours in the wood room may be lengthened or a few more men added. Holding the overhead to something near its present level will mean that a greater profit on the output may be assured, it is pointed out.

Mr. Spaulding stated that negotiations for the addition of a bleaching plant are under way and that a public announcement of this phase of the company's improvement would probably be made in the near future.

Prospects Bright For New Westminster Mill

Establishment of a \$3,000,000 pulp mill at Queensborough, near New Westminster, British Columbia, is now assured, according to Mayor A. Wells Gray, of New Westminster, who has returned from the East where he conferred with principals behind the proposition and took up with the federal government at Ottawa various matters in connection with the organization.

C. D. Altick, of Seattle, who has been the chief mover in getting preliminary plans for the New Westminster project under way, is still in New York and is not expected to return to the Coast for several weeks. Wires received in Vancouver from Mr. Altick, however, intimate that all obstacles in the way of the enterprise have been successfully overcome and that incorporation of a new company and announcement of construction will follow very soon.

Mr. Altick has succeeded in interesting the Atterbury

brothers of Boston and New York in his plans and they are understood to be the chief financial backers, although some of the capital may be obtained in Great Britain. The Atterburys have extensive paper and railway interests in the East. So far, the Atterburys are definitely committed to the expenditure of \$500,000, it is said, but the balance of the required capital is available from other sources, according to Mayor Gray.

The mill will be located on a 34-acre tract of land controlled by the British Timber Corporation, Ltd., through Howard T. Cole. The site is where the British-Canadian Lumber Company's sawmill was formerly located and it has admirable trackage and waterfront facilities, which will enable the company to participate in the offshore market by direct shipments.

It is proposed to have a part of the harbor dredged so that deep sea ships will have ready access to the wharves being built for the pulp and paper mills. The chief source of pulpwood will be the timber tracts along the lower Fraser River, where large quantities of spruce and other pulp species have been cut in recent years, a large percentage being exported to the United States because of the lack of a market for it in British Columbia. The mill will be within a few miles of some of the largest groups of sawmills in British Columbia and thus will be in an advantageous position to load part cargoes on ships that are taking lumber from Fraser River ports. The company has already obtained extensive pulpwood limits and this supply will be augmented by purchases in the open market, it is understood.

Fixed assessment for a term of years is being asked by the promoters of the new company and these will be granted without delay, Mayor Gray states.

The proposed mill will probably have a daily capacity of 100 tons of bleached sulphite, although details have not yet been divulged. Marketing questions are at present engaging Mr. Altick in the East and he is expected to make a more definite statement concerning the plans when he returns.

Rainier To Add Fourth Digester

A fourth digester is to be added to the mill of the Rainier Pulp & Paper Co., Shelton, Wash., to bring about greater manufacturing perfection in this 135-ton bleached sulphite mill. Work is expected to start soon. An addition to the digester house will be constructed to house the additional unit. More efficient utilization of chemicals is expected to be affected with the new unit in operation.

The addition of a digester makes the second important improvement at the Rainier mill in recent months. A new steam plant and steam power unit was recently added.

Union Bag to Close Wisconsin Mill

The Union Bag & Paper Corp. will close down permanently its mill at Kaukana, Wisc., on July 1, according to a statement credited to R. A. Jacoby, resident manager of the mill. The reason given for abandonment is that the plant can no longer be operated profitably. Last year the bag making department of the mill was transferred to Orange, Texas, leaving two paper machines in operation at Kaukana. Union Bag acquired the Kaukana plant in 1900. The mill was built about 40 years ago.

Davies Goes Traveling

D. B. Davies, in charge of operations at the 135-ton bleached sulphite mill of the Rainier Pulp & Paper Co., Shelton, Wash., is now East on a visit to different mills.

Big Mill For Coast Seems Certain

That some pulp and paper mill prospect of great size is definitely under way for early construction on the Pacific Coast seems to be certain, yet so carefully are the circumstances being guarded that little that is definite can be learned.

Rumors that International Paper Co. propose to enter the Pacific Coast field with a 1000-ton mill continue to be circulated. The suggestion that the chosen location is at Beaver Cove, on Vancouver Island, British Columbia, where the Canadian Forest Products Ltd., which is backed by the big International Harvester Co., holds a strategic site, has been given official and emphatic denial more than once recently by both International and by Canadian Forest Products executives.

Charles Blanchard, head of the International Paper Company's New York office, when questioned as to whether his company proposed to build a 1000-ton mill in British Columbia, denied knowledge of the project.

"No such project has been brought to my attention," said Mr. Blanchard. "You can say that to my knowledge the company is not going to establish a mill in British Columbia. I do not know where the rumor came from, but it is not true. If there was any indication that a plan was afoot for a mill there I am sure I would have heard of it."

Despite these denials the rumor persists. There is much speculation, however, some holding that the site may be in the Pacific Coast states rather than British Columbia, and some that it may be some other site than that at Beaver Cove. Neither do all rumors point to International Paper.

It is known definitely at this time that machinery orders have been placed with Eastern equipment houses for both paper machines of large size and for quantities of auxiliary equipment. Some manufacturers will merely admit that orders have been placed and that delivery is to be made to the Pacific Coast. One man went so far as to state that orders had been so placed, but not by International, "although I suspect that the machinery is for them."

Whatever the project is, this much is certain: the sponsors are using many a device to cover up their activities and to keep the curious off the trail until the project is sufficiently advanced to be beyond possible thwarting by competitors. Further, as stated previously, there is plenty of evidence that some unknown interests are planning a large scale project for the Pacific Coast for early construction.

Breitenbach Makes Eastern Visit

Wm. Breitenbach, chemist of the Grays Harbor Pulp & Paper Co., Hoquiam, has gone East to visit the mills of the Hammermill Paper Co., Erie, Pa. to become conversant with methods of that company preparatory to the beginning of production on the new paper machine now being installed for Hammermill at Hoquiam.

James Whalen is Dead

James Whalen, pioneer of the pulp and paper industry in British Columbia and co-founder with his brothers of Whalen Pulp & Paper Mills, Ltd., now controlled by the B. C. Pulp & Paper Company, Ltd., died in Duluth, Minn. June 5, aged 62.

Introducing Mr. P. F. Knight

Organization of the Puget Sound Pulp & Timber Co. as announced recently brings together a number of figures well known to the pulp and paper and the lumbering industries of the Pacific Northwest.

The man who will have charge of lumber operations for the new company is P. F. Knight. He is a vice-president and director of the newly organized Puget Sound Pulp & Timber Co., and will take an active part in management. Lumber is no new field for him. He



P. F. KNIGHT
Vice President

Puget Sound
Pulp & Timber Co.

in Charge of
Lumber Operations

is vice-president and general manager of the Mutual Lumber Co., Bucoda, Wash., now, and has been in the lumber business for many years.

It can not be said that Mr. Knight is a newcomer to the pulp field. He is one of the principal stockholders of the original Fidalgo Pulp Manufacturing Co., Anacortes, Wash., a pioneer mill of the Coast in the utilizing of sawmill wastes for pulp manufacture. He has been a director of the Fidalgo mill and of the San Juan Pulp Manufacturing Co., Bellingham, a companion mill, since their inception. Both these mills have now gone into the merger of the new Puget Sound company.

Mr. Knight is also a director of the West Coast Lumbermen's Association and has always taken an active part in the affairs of that association.

The Puget Sound Pulp & Timber Co. proposes to build a bleached sulphite mill at Everett, Wash., with a capacity of 100 tons or more daily.

To Build Chipping Plant at Everett

The International Wood & Sulphite Co. is to begin immediate construction on a plant at Everett, Wash., for the production of chips and hogged fuel. The plant is to be located on a site adjoining the sawmill of the Canyon Lumber Co., recently acquired by the International company.

The plant will be rushed through to completion so that it may begin accepting the sawmill waste of the Canyon mill as the contract now calls for, on October 1. It will be of sufficient size to produce about 300 units daily of pulp chips and hogged fuel.

Some departure in design may be made in the installation of a belt conveyor from the chipping plant to the scows. The belt conveyor will be rigged on a cable suspension so that the chips and hogged fuel will be carried across the log pond to the scows which will be moored on gridirons in the stream.

The International Wood & Sulphite Co. is headed by K. O. Fosse and operates a number of chip and hogged fuel plants on Puget Sound, Grays Harbor and

elsewhere in the Douglas fir region to supply sulphite and kraft pulp mills. The company confines its operations to the raw materials and does not manufacture pulp, although it is sometimes confused with pulp mills. The chipping plant project in connection with the Canyon Lumber Co. has no connection with the contemplated pulp mill being considered by E. M. Mills of the Crown Zellerbach Corp., and others for construction at Everett.

Occident Mill Goes on the Block

After a career of somewhat more than two years of ups and mostly downs the small groundwood mill of the Occident Pulp & Paper Mills, more recently known as the Dougall Woodfibre Co., went on the auctioneer's block on Saturday, June 15. This issue goes to press too early to give the results of the sale, which was to be held at Edmonds, the mill site.

Last year A. H. Dougall, who has been associated with a number of pulp and paper projects on the Coast, at various times, entered into a five-year contract for the operation, lease and purchase of the Occident mill. The name of the plant was changed to the Dougall Woodfibre Co., and the mill was operated for a short time. Mr. Dougall at all times remained close-mouthed regarding his plans for the company. Just prior to taking over the Edmonds plant he figured in a big newspaper story in the Los Angeles territory where it was announced that he would start a board mill and container factory. Nothing materialized at that point, but it was sometimes thought to be a part of the plans with Occident.

With the failure of Mr. Dougall to show a profit at the Edmonds mill the contract is understood to have been defaulted and a receiver appointed.

The Edmonds mill has a rated daily capacity of about 30 tons of groundwood pulp daily.

Fir-Tex to Do Some Construction

Authorization of \$100,000 for preliminary construction work on the Fir-Tex Insulating Board Co., plant at St. Helens, Oregon, was made at a stockholders' meeting held at the company's Portland office May 16. The money is to be expended for cleaning the site of the proposed mill, laying a spur track, and digging water mains. Work was to be started late this month. Six or eight months will be required to complete the project. The company recently purchased a 173-acre waterfront tract near the city on Scappoose Bay.

Through a public financing program the company is reported to have already raised \$1,500,000, and confidence is expressed by officials that the remainder of the stock will be sold within the next 60 days. Delay in actual construction is attributable to the promoters' insistence that virtually all the authorized capital stock be sold before awarding of contracts.

Lee A. Phillips, Los Angeles, executive vice-president of the Pacific Mutual Life Insurance Co., and president of the Pacific Finance Corporation, was recently added to the company's directorate.

Rainier Mill Makes Big Run

The 250 employees of the Rainier Pulp & Paper Co. at Shelton, Wash., recently made a big Saturday's run of pulp, bettering their daily rating of 140 tons, and Superintendent D. B. Davies suggested that he would like to see what the boys could do in a week's run, so one recent week they broke the record in the mill's production and the company came through with the cigars.

TAPPI —

Secretary Macdonald Coming to Organize

Pacific Coast Section

FORMAL organization of a Pacific Coast association of technical men of the pulp and paper industry is scheduled to take place in the Gold Room of the New Washington hotel, Seattle, on Saturday, June 22. The affair will be in the form of a dinner. The time is 6:30 p. m.

Secretary R. G. Macdonald of TAPPI (Technical Association of the Pulp and Paper Industry) will be the guest of honor and will officially conduct the proceedings. He attended the summer meeting of the American Pulp and Paper Mill Superintendents Association at Wausau, Wisc., the first week of June and headed directly West from there.

The Seattle meeting is expected to bring to realization plans of Pacific Coast technical men that have been developing for many months. The first suggestion of the desirability of creating an organization of technical men on the Coast developed at the first Pacific Coast Pulp and Paper conference held at the University of Washington, Seattle, on October 26th, 1928.

At this meeting creation of a Pacific Coast section of TAPPI was favored. An executive committee meeting held the following January and to which all Coast mills were invited to send representatives drew up a formal petition to TAPPI national headquarters for creation of a Pacific Coast section built around present members now living and working on the Pacific Coast. At the annual meeting of TAPPI in February in New York the Pacific Coast voice was recognized and formal approval was given and Secretary Macdonald authorized to make a trip to the Coast to perfect the organization.

The general purpose of the Seattle meeting on June 22 will be fourfold.

Membership Qualifications

First there will be a general discussion on the exact conditions under which the Pacific Coast organization will be organized and function. The matter of membership qualifications is one question likely to be threshed out, the Pacific Coast men having made some requests for a little more latitude. Further, the geographical handicap that makes attendance at Eastern meetings difficult for Pacific Coast men has prompted the request for a somewhat sectional form of organization that will facilitate local meetings on the Coast and for Coast men.

Second will be the election of officers to guide the destinies of the Pacific Coast section. Mr. Robert Bell-Irving, general manager of the Powell River Co., Ltd., is now national executive committeeman representing the Pacific Coast region.

Third will be the appointment of a program committee to handle the details of the proposed fall meeting, which will be the first real meeting of the Pacific Coast section. It is probable that the city in which to hold the meeting as well as the date will be fixed at the June 22 meeting. Vancouver, B. C., has been suggested as the probable place for the first meeting.

Fourth will be the selection of a membership com-

mittee and the laying of general plans for a membership drive.

Details of the meeting of June 22 are being handled by W. L. Beuschlein of the Department of Chemistry University of Washington. Dr. H. K. Benson, head of the department, who has been handling much of the preliminary organization as chairman of the committee, will not be able to be present at the meeting since he is to teach in Southern California in the summer and must leave Seattle on June 15th. Neither will Mr. Bell-Irving, executive committeeman, be able to attend the Seattle June meeting. He has left for a trip into interior B. C. that will keep him away for the remainder of June.

Latest word from Secretary Macdonald was that he would leave Chicago on June 9 for Los Angeles. From there he would go North stopping en route at San Francisco to arrive in Portland about June 17. It is his purpose to visit as many of the Pacific Coast mills as time will permit and to make as many personal contacts as possible.

Favor Coast Section

The latest count has disclosed that there are at present 77 members of TAPPI on the Pacific Coast. There are a few names on this list which represent recent applications which have not at this date received final approval of the executive committee. A number of applications have been received and in general a quickening of interest has been noticed as the creation of a local Pacific Coast section approached more and more a reality.

Following the formal request to TAPPI headquarters in January for the creation of a Pacific Coast section the members residing on the Coast were solicited by headquarters for their ideas on the advisability of such a section. Secretary Macdonald reported that the response was virtually unanimous and in favor of the Coast section. There has been general feeling that a Coast section would prove of great value through the benefits of association and exchange of ideas on problems common to the Pacific Coast industry.

Another B. C. Pulp Mill Hinted

Hon. Nels Lougheed, managing director of the Abernethy-Lougheed Logging Co. and minister of public works in the provincial government of British Columbia, is now in England negotiating for the financing of a sawmill and pulp mill in the Fraser Valley, according to cables received at Vancouver. Details of the project have not been given out, but it is known that Abernethy-Lougheed have obtained an extensive timber tract containing a large percentage of pulping species and that establishment of a pulp plant is regarded as essential to the profitable utilization of the entire stand. Part of his negotiations were carried on by long distance telephone from London to Victoria.

Technical Control

What It Is and What It Can Do

For the Pulp and Paper Industry

A Discussion from the Standpoint of the Industry as a Whole

By CHARLES A. NEWHALL
Chemical Engineer, Seattle

IT appears that after several hundred years of achievement under the "rule of thumb" regime the pulp and paper industry is about to turn "thumbs down" on the old system. The industry is finding that the modern method is to apply exact science, to pre-determine results, in other words, to operate under a system of "technical control."



CHARLES A. NEWHALL

Let us first define our terms. "Rule of thumb" operation may be defined as the doing of things because tradition and experience indicate that such doing will produce the desired results. It is a method of operating with but little or no knowledge of the basic chemical reactions involved; a method of operating blindly according to precedent, according to what has gone before in the industry without

any reference to what other industries might have discovered along the same lines.

"Technical control" on the other hand, or, as I prefer to term it, "operation under applied science," may be defined as the method of doing things under definite conditions that have been fixed and agreed upon before the operation was started. It is a method of operating that requires the fullest possible knowledge of the basic chemical reactions involved. It is a method of operating with a full respect for precedent, while at the same time making full use of the findings of science, regardless of whether these findings are the work of men in the paper mill, in other industries, in universities or anywhere else that study might be carried on.

Perhaps an example will serve to make my meaning more clear. A paper maker goes to the forest, takes out pulpwood, turns it successively into pulp and paper, ships the finished paper to the trade on the sales department's order and—well, the customer finds it all wrong, according to his (the customer's) ideas.

What happens? A complaint is started down the line by the customer. It runs like a ripple starting out in the center of the pond with the splash of a thrown pebble and runs shoreward until it strikes the bank, where it can go no further. So the complaint ripple runs down through the sales department and eventually

bumps up against the operating management. What then? The management can either decide that the sales force simply "doesn't know how to sell good paper" or, if the fault is glaringly evident and it is not possible to admit even with the most callous conscience that the paper is good stuff, then the decision is made that the fault must be "in the wood."

Result? Nothing is done. The operating mill men figure that Nature grew the wood and that there is no accounting for the stupidity of the sales department. The mill usually goes on making the same mistakes over and over again because no one can tell exactly what was going on when the paper complained about was in process of manufacture. "Rule of thumb" is helpless because he hasn't got the real underlying facts. Any improvement he makes must depend upon the lucky day when by trial and error he accidentally hits upon a solution. Even then, though possessed with a result, he is still blind regarding HOW said result was achieved.

Turn now to the other side. Let us look under the hood of another basic industry which has long operated under real technical control. The cement industry is a good example because at one time—about 25 years ago—it occupied a position similar to the pulp and paper industry of today in the application of science in process manufacture. I well remember the answers of the old time cement mill superintendent when the complaints would come in. He had but two, and they were, either, "The contractor is a crook and doesn't know how to use good cement," or "it must be the rock". Neither was an answer.

What One Industry Did

Today one seldom hears of bad cement or a complaining customer. This is not "because of the trust," as the cynic may remark, but because the cement industry after trying combinations and all other known devices to get around ruthless competition and over-production at last adopted technical control. Today the technical director in the cement industry has a hand in every phase of the business all the way from organization and finance through operation and sales and even down into the uses of the product by the purchaser. Today a cement mill chemist knows all about his rock, clay, gypsum and coal before the mix is made. Let me inject at this point that these basic raw materials used by the cement industry are subject to infinitely more variation than are the relatively uniform woods and ensuing pulps that form the raw materials of the paper industry. Despite the wide extremes of composition in raw materials and the thous-

and one variables which may enter into the manufacturing process the finished cement is always of a predetermined grade.

How very different is this system in the great majority of pulp and paper mills where one must wait until the paper is made before he knows whether the furnish was right and the treatment proper!

The Technical Department of a mill should be the medium through which the management and the practical operatives learn about and apply the discoveries of science. Scientific discoveries are the basis of modern civilization. These achievements are recorded upon paper, where they may be available to all. Yet the paper maker seems to be the last to profit by, to make full use of, what science has already discovered. An immense mass of technical information is already available to the pulp and papermaker.

Lost Jobs and Reputations

The fact that the industry is turning to technical control is leading to unlooked for results, unlooked for, that is, by the managements concerned. In some cases the attempt to adopt true technical control has brought about little tragedies. Mill managements have lost their positions and their reputations and many a good chemist has lost his job through no fault of his own.*

Real technical control is much more than a mere recording of tests. We hear the pop of the Mullen tester throughout the land today, but reams of Mullen test figures and reports on the alpha, beta, gamma and what not cellulose, beautiful curves for digester operations, ball mill and beater tests do not make a technical control department.

Tests to be worth while must be made for a purpose and the figures must be used by the operatives. Studies in the characteristics of pulp must fit the purpose for which the pulp is to be used. Far too many mills today have incorporated in their organization something which they choose to call a technical control department, but they use it as sinners too often use true religion—to cover up a continuance in sin. I know more than one mill that is making a beautiful record in paper testing while the sales department has lost all faith in the mill and in technical control because there is no abatement in complaints. The tests, sad to relate, are being made on samples carefully selected and double sorted and are in no respects representative of the mill output. Why this state of affairs? Some one has issued the orders to make the tests thus so as to make a good showing for the management.

Lead Pencil Editing

Equally bad was the case of another mill in which the superintendent made a practice of editing the chemists' reports before posting them. Again, WHY? Not knowing how to use the laboratory and therefore having no confidence in it, he assumed that the chemist must be wrong. This was perhaps the easiest explanation for such a drastic change in the cooking liquor in one short hour. In this same mill the digester cooks were entrusted with the making of the digester curves and a point was made of always turning in a diagram that adhered very closely to the sample curve desired by the superintendent. These beautiful curves were made up by the lead pencil method since the cooks had no faith in the new fangled pressure and temperature indicators and besides they knew they would get

the old h—l itself from the superintendent if they reported the wide variations which actually occurred.

In another mill much costly corrosion was being experienced in the beater room and at the wet end of the paper machine. All kinds of costly experiments were made with resistant metals and special treatments. The answer was found, however, in making a few tests of the alum purchases and in controlling the pH of the beater furnish. The purchasing department had been buying a highly acid alum, in the belief that it was the best because it cost less per ton—but more per unit of Al_2O_3 . The acid in the beater made for a wild sheet—and a wild management—and the wilder the paper got the more of this acid alum the beater men used. They were following the hoary rule of thumb method of adding more alum whenever complaint was made about the stuff going to the machine. In this case the purchasing agent and the mill crew were all doing what custom had told them was best, but it took a chemist with a couple of cent's worth of test indicator to find the cause of the trouble and give information that enabled all concerned to get the results desired.

My "horrible examples" are not theoretical. They are gleaned from personal experiences. What I am trying to point out in holding these up to the light is that real technical control departments would have saved the directorate money running into aggregate millions each year.

Technical control once adopted by an industry has never been abandoned. Likewise, an individual plant in the industry that once gets the proper start in technical control has never been known to go back to rule of thumb operation. These facts are not likely to be questioned.

There are hundreds of simple things around a pulp and paper mill that the technical department can do to safeguard the product and at the same time make easier the work of the operative. But to my way of thinking the big work for the technical man in the industry will come when he is permitted to look back of the sheet of paper or the pulp, or even the pulp fiber, and, not less important, to look ahead of the sales department and the finance committee.

Here I may be accused of theory and of wanting to see the chemist step out of the place as made for him by custom in the minds of most operative and management men. Be that as it may, the fact remains that other industries have made millions from unexpected sources through placing technical men in a position to look far back and far ahead of the immediate operations.

Again let us depart for the moment to another industry. Nearly 30 years ago when I had completed my schooling—and assumed that I had completed my education—I desperately wanted to get a job in the petroleum industry which was at that time just undertaking technical control. I was disappointed to learn that the great refinery where I applied could then only afford to employ a couple of chemists. Yet it was not long before the chemists in the oil industry had adopted well known scientific facts and made new discoveries

*In succeeding discussions to be published later Mr. Newhall takes up in turn the relationship between technical control and, first, the management, and second, the chemist.

that converted an old stand pat rule of thumb industry like oil into one of the most progressive and dividend paying industries in the world.

The technical men found out how to take the color and smell out of formerly unuseable crudes and how to get high yields out of crudes that yielded but a pittance before. Today—witness our automotive industry and a motorized world. More to the point, today the petroleum industry employs thousands of chemists, not a few of whom are listed on company directorates.

Let us look at iron, another example. For ages the world had been content with cast iron, wrought iron and a few special steels, the manufacture of which was supposedly a mysterious and very secret art. Then some 50 years ago the railroads began to demand rails stronger and surer in quality, better steels for locomotive working parts. This and other things made iron-men squirm a bit to meet more rigid demands. The advent of new steels made in quantity by strictly technical methods was fought desperately for a time by the old "rule of thumb" mills, yet without these new steels the present day steel Colossus would be impossible. The innovations and the tremendous increase in production forced the steel people to hunt new uses for their products. As a direct result of this urge for new uses for steel we have our modern skyscrapers and huge bridges. Ferro alloys and non-ferrous metals such as aluminum are children of the laboratory and the industries based on these discoveries have used technical control from the very start.

One could go on for pages citing industries that have been rejuvenated or even created by technical control, that is, by THE APPLICATION OF SCIENCE.

Now comes the question, "What can technical control do for the pulp and paper industry?" Fortunately, the industry itself has plenty of good practical evidence that technical control pays handsomely. Despite the fact that the industry as a whole has been a couple of decades behind, there are a number of mills that have long used science. Three mills at least in North America are generally recognized as having made an outstanding success of technical control. Without doubt it is the example of these three outstanding mills, more than any definite idea of what can be accomplished, that has led many managements to install technical control in their own mills.

Technical control once adopted by an industry has never been abandoned. Likewise, an individual plant in the industry that once gets the proper start in technical control has never been known to go back to rule of thumb operation. These facts I can state as ones not likely to be questioned.

Technical control, applied to industry in general, is nothing new. With some industries it is an old story. With others it is a stranger who, having sent in his card, must cool his heels on the deacon seat until the executives decide whether or not they will listen to him. Will the pulp and paper industry at least usher him in and give him a chance to show what he can do?

Grays Harbor Water Fight Is Hot

The fight between two factions in Hoquiam over continuing or abandoning the city's condemnation proceedings against the Oregon-Washington Water Service corporation and taking over its water system, has been viewed by many as pertinent to the development of pulp and paper in that city.

So secretive has been much of the effort, both in

favor and against the water company that the real significance has remained somewhat obscure.

The city some time ago decided that it was not getting proper domestic water service and started condemnation proceedings against the water company. In early legal suits the city was victor every time and it became apparent that the city had every chance in the world of winning the suit and taking over the water system at pretty close to its own figure.

Apparently realizing that only a radical change in policy would forestall its complete removal from the city, the company, through its Hoquiam officers, began dickering with the city council, offering to purchase large quantities of water from the big industrial water system on the Wynooche river just completed by the city of Aberdeen. This was termed the "peace overture" of the Oregon-Washington Water Service corporation. It was found that the company would be legally able to buy water from Aberdeen at a price less than 10 per cent more than the schedule of rates in Aberdeen.

The company then promises to build a 32-inch pipe line through the two cities as far as Eighth street in Hoquiam, the Aberdeen section to be built by Aberdeen, the Hoquiam section by the water company. The company offered to put up a sizeable bond to go through with its promise if the council would order the condemnation proceedings dropped.

While these negotiations were in process rumors that Alex Polson, Hoquiam lumberman who is interested in the Grays Harbor Pulp & Paper Co. at Hoquiam, and C. G. Blagen, Hoquiam lumberman who has frequently been mentioned as a prospective pulp mill builder on Grays Harbor, had combined with the Oregon-Washington Water Service company to block the entrance of other pulp or paper mills to Hoquiam came out. These were branded as false by Mr. Polson, Mayor Martin F. Smith and water company heads. There appeared to be little foundation for them. Mr. Polson and Mr. Blagen both favored the company's plan, stating that the city would be assured sufficient industrial water under it to guarantee adequate water to pulp and paper mills that might settle there.

However on Monday May 27, the city council refused the company's offer and decided to continue to press its condemnation suit against the water company. At the same time the city decided to open negotiations with Aberdeen on its own score to purchase industrial water for prospective Hoquiam industries. The decision was reached by a special water committee of the council, which committee is negotiating with Aberdeen for purchase of water.

Both Mr. Polson and Mr. Blagen expressed keen disappointment with the refusal of the city to take the company's proposition. Mr. Polson had said that an industry, the identity of which he was not at liberty to divulge, was about to build in Hoquiam if assured of plenty of water. He pointed out too that the Grays Harbor Pulp & Paper Co. is building a paper plant which will need much water.

Blagen, when asked whether he had been contemplating the building of a pulp mill in Hoquiam if the water plan had been accepted, refused to say.

"At present I am not," he said. "I have been considering building a mill in Hoquiam for a long time but the issue is very dormant now. I doubt if my company will go into the pulp business, at least at any time soon."

In the meantime the city is going ahead with its condemnation suit against the Oregon-Washington Water Service company and negotiating with Aberdeen for the purpose of water.

Introducing Charles A. Newall

Charles A. Newhall, who gives an interesting and thought-provoking discussion in the current issue on "Technical Control", is a chemical engineer who has been allied with the pulp and paper industry of the Pacific Coast for some 20 years past.

After serving an apprenticeship in practical mill operation and laboratory work Mr. Newhall entered the University of California from which he graduated in 1905 with the degree of Bachelor of Science.

Since graduation he has had much to do with the design and operation of industrial plants for the manufacture of cement, limes, clay products, paper, pulp, and paper and pulp makers' chemicals, refined sulphurs, fixed nitrogen and numerous agricultural and industrial chemicals. Since 1910 he has operated his own business, carrying on a general consulting and chemical engineering work, design and operation, routine testing and control and trade association activities.

Mr. Newhall is also the author of a large number of technical articles and his technical writings have given him an international reputation and clientele.

He is a member of the American Chemical Society, American Institute of Chemical Engineers, American Association of Engineers, Technical Association of the Pulp & Paper Industry, American Society for Testing Materials and a number of other organizations.

Recently Mr. Newhall has been engaged in organizing the Technical Control departments of some of the larger mills on the Pacific Coast.

For the convenience of his clients he has recently opened a downtown office in the Smith Tower in Seattle, from which location he will continue to direct a general consultation, laboratory and research organization available to the pulp and paper industry and other industries of the Pacific Northwest.

Powell River Files on More Power

The British Columbia government having lifted the reserve on Lois River and Gordon Pasha Lake waterpower, the Powell River Co. has taken advantage of the opportunity of providing for future expansion by making application for rights there. If granted, the company will investigate and ascertain development necessary.

Consolidated Mining & Smelting Co., contemplating a big ore refinery and smelter somewhere on British Columbia's coast and believed to be indirectly interested in the Campbell River power site on Vancouver Island, lends interest with a competitive bid. The understanding has been that if B. C. Power Corp. won the Campbell River power rights it would sell power to the Consolidated as well as to Crown Willamette Paper Co., an earlier claimant for Campbell River resources.

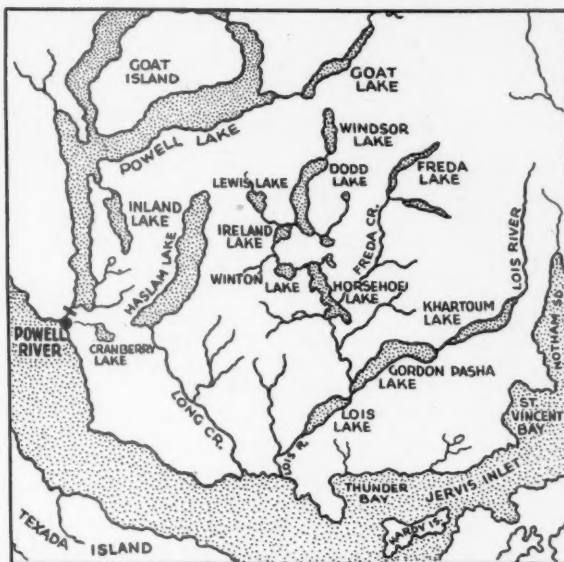
As it has been generally believed that B. C. Power Corp. will harness the Campbell River Falls and thus be in a position to meet the requirements of the Consolidated Mining & Smelting Co. on Vancouver Island, the application of the latter concern for power at Lois River and Gordon Pasha Lake on the mainland caused considerable surprise.

As in the case of Campbell River applications, the provincial government's water board will consider the Lois River-Gordon Pasha power bids at a near-future hearing.

Filing for Lois River-Gordon Pasha power by the Powell River Co. is the natural outcome of expansion by British Columbia's premier newsprint producing company. While it may not be necessary to provide at

once for increased waterpower, officials of the company state that the present capacity of the Powell River mill, which is 500 tons daily, cannot be increased unless more waterpower is obtained, and they claim that the only suitable source of that power is at Lois River.

In view of these facts, Powell River appears a logical



Map showing bodies of water on which Powell River Co. has filed for power rights, and the relation of these bodies to Powell River.

contender for the Lois River power. Without it the company must either continue indefinitely to operate at its present capacity and lose important export markets now being developed or else concentrate its operations elsewhere; the Powell River mill cannot turn out more pulp than at present without more waterpower.

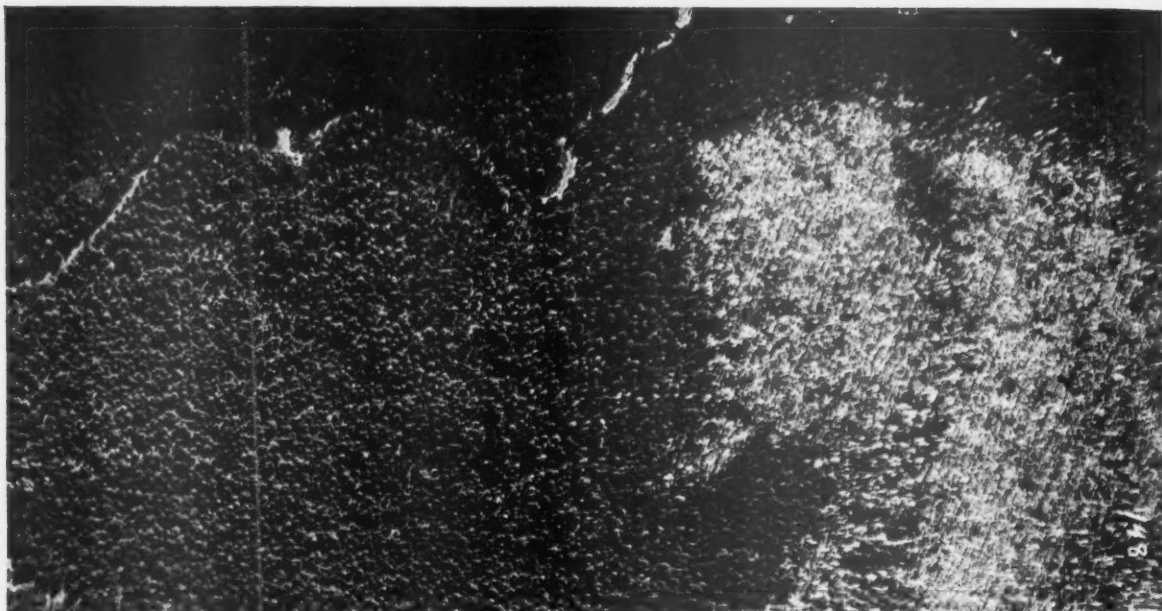
Experts state that the Lois River power project will be able to produce about 25,000. In its formal application the Powell River Co. seeks a license to use 1,000 cu. ft. of water per second and to store 630,000 acre feet of water out of Lois River, which drains into Malaspina Strait about one mile northwest of Stillwater. The storage dams would be located near the outlets of Lois, Horseshoe and Dodd Lakes.

Paper Merchants On Buyer's Committee

W. D. McWaters, manager of the Portland division of the Zellerbach Paper Co., and C. L. Shorno, vice-president of Blake Moffitt & Towne, have been named members of the general committee in charge of Buyer's Week to be held in the Rose City the week of August 5-10.

Eighty thousand announcements calling attention of the trade to the 17th annual event have been mailed by the trade and commerce department of the local Chamber of Commerce, and it is expected that several paper and box men will be among the number to respond.

Entertainment features will include "whoopie" night on August 7, a vaudeville entertainment at one of the city's auditoriums and an elaborate fashion show. The latter event will be patterned this year after one of the famed French salons and will be held the night of August 6.



This is how timber appears when you look straight down upon it from a height of 7,500 feet. An expert can "cruise" the stand with fair accuracy by studying such a picture. Upper left shows a stream. Bare area at right is an old burn.

Brubaker Aerial Surveys, Portland

Getting the Bird's-Eye View

The Camera and the Airplane Are Playing Their Part in Developing the Pacific Coast's Resources

THE airplane and the camera can be of immense practical value to the engineer on the ground when properly used. One of the best examples of this is seen in the \$800,000 water system which was constructed to supply the National Paper Products Company's new kraft mill just completed at Port Townsend, Washington. This pipe line completed is approximately thirty-one miles long and is capable of delivering 16 million gallons of water daily from the big Quilcene River. Construction of this big pipe line was a job principally for the engineers on the ground but the work was speeded up a matter of months and big savings made, according to the engineers, by making an aerial survey of the ground first.

Aerial Survey Effected Savings

The Portland engineering firm handling the construction of the Port Townsend water line estimated that thousands of dollars were saved as a result of calling in the aerial photographer to make the preliminary survey and establish a ground line. In addition to actual money saving the engineers estimated that they saved at least two months of construction time. The pictures told the story and enabled the engineers to throw out a lot of needless preliminary work.

"Working in a rough country, covered with second growth, windfalls and dense vegetation, is naturally slow, but without a tangible line to follow, progress would be infinitely slower. Much of the work would have had to be of an experimental nature. Lines would first have to be established, only to be abandoned

after exact points were located. Even a surveyor can't see through a range of mountains. The fact that we had to have the survey completed in a limited time made haste imperative, and we weren't long in realizing that definite information was needed." In these words the engineer pictured the problem.

The country separating Port Townsend and the Big Quilcene River is rough in character and covered with much vegetation. As time was an important factor in the construction of the pipe line it was necessary to get a good picture of the territory before sending the engineers in to make their lines and the only satisfactory picture would of course be one taken from the air. As the builders of the mill were anxious to push their construction program, it is seen that they could not move faster than work on the pipe line could move. With the help of the aerial photographer the pipe line was completed when the mill was ready for operation.

Clear Weather Necessary

When William C. Brubaker, of Brubaker Aerial Surveys, Portland, was called in on the job, it appeared, however, that more time would have to be sacrificed waiting for good weather, because until the fifth day following his arrival the sky was overcast with fog and clouds. Parenthetically, it may be said that the Pacific Northwest offers relatively few days out of the year in which the best clear-cut pictures may be taken from the sky. In fact, says Brubaker, the average is around two days a month. To quote the photographer, "If she doesn't rain, she smokes."



Alaska Aerial Survey Exp., Navy Dept.

Aerial Views Save Time for the Engineer by Showing Him Where to Run His Lines

It was noon on the fifth day before satisfactory light conditions enabled the aerial photographer to begin work. In these surveys mid-day is the best time to take the pictures because at that time the light is strongest and the shadows are shortest. A pilot is of course necessary because one man cannot run the "ship" and shoot pictures with a 50-pound camera at the same time.

The camera is set in a gimble to permit rapid leveling. The machine shoots one hundred 7x9-inch pictures without reloading. A new film slips automatically into place after a picture is taken.

As an aid in following the proposed line, Brubaker carried a control map made up from a government map. In addition to rivers, lakes, "burns," and other clearly-defined points, the control map had a red line drawn across the route the pilot was to take.

Shooting the "Obliques"

"Obliques," showing a three-mile-wide strip, were taken first to show the topography of the country and the lay of the land along the site of the proposed pipe line. These shots were made from two to three thousand feet high. Some idea of the plane's speed may be grasped when it is explained that views were made every two minutes, each being about three miles apart.

Upon reaching the terminus of the line at Big Quilcene River, the pilot, instructed through the speaking tube by the photographer, began climbing in a spiral until a height of 9,000 feet was attained. It should be explained here that climbing to this height involves considerable time, forty-five minutes being an average. Unless one rises from 8,000 to 10,000 feet, Brubaker explains, the contour of the country will show up to disadvantage in the mosaic map. Sections of the mosaic map were snapped on the way back to Port Townsend, each of which showed an area about three-quarters of a mile long and about a mile wide. An overlapping

of thirty per cent was allowed to provide for close matching.

Upon completing the round-trip flight, the time of which consumed one and one-half hours, Brubaker and his pilot returned to Portland, where two sets of pictures were printed from the negatives. The first series was numbered, this being easy as the films were in a continuous roll, while the second series was mounted on a sheet to make the map. The map was then scaled, the scale showing 600 feet to the inch, or about nine inches to the mile. The length of the finished map, which is accurately matched, was about eighteen feet.

Thus it will be seen that the field men have not only the high-up perspective, but the detailed numbered pictures as well to guide them in making their survey. The original map was kept in the office at Port Townsend, while the engineers were supplied with prints for field work. Developing the films required but a short time, and, notwithstanding the distance of several hundred miles between Portland and the scene of activities, Brubaker had the finished pictures back at Port Townsend in three days.

Aerial Map Has Many Uses

Although the foregoing instance of the advantage of aerial photography in hastening an engineering project is incidental to the furtherance of the pulp and paper industry, it can readily be seen that the aerial map is destined to play an important part in the development of this field. In fact, maps are being made so clear that an actual tree count is frequently possible. Windfalls are discernible, while dead standing timber appears as tiny white stars. Different species can be distinguished through the variations in shading, and an estimate of height and size is possible.

The maps are also proving of immense worth in aiding engineers to secure advance information regarding the lay of the land in proposed projects, where it



Alaska Aerial Survey Exp., Navy Dept.

The Bird's-eye View Tells at a Glance the Character of the Country. Here is a Section of Southeastern Alaska

is inadvisable to give out early information, as in mapping out a right-of-way. Property appraisals can be effected accurately and quickly as well. As an instance, 97,000 acres of the Bull Run timber reserve, headquarters for Portland's water supply, was recently mapped by Brubaker to show that the country was too rough for farming.

In matters of litigation aerial service is proving of untold value. As an instance, a case involving a drainage district in Oregon was recently settled by the use of airplane photos. After the contention was made that the cost of completing the drainage district would be prohibitive because a part of the district was covered with heavy timber, the clearing of which it was said had not been taken into consideration by the engineers in preparing the estimated cost of construction, fifty photographs from the air were produced, with the result that the contention was withdrawn.

Mr. Brubaker, who has been engaged in aerial survey work for the past nine years, emphasizes the point that his work is in no sense intended to supplant the work of field engineers. On the contrary, he says, he carries it on for the purpose of being of service to them, and often gives instruction to ground engineers showing how the aerial and ground work can be coordinated. Aerial surveys are finding increasing favor in the developing pulp and paper industry of the Pacific Coast because of their value in survey jobs such as the Big Quilcene water line, in visualizing timber stands, and showing the contour of broken country.

Australians Considering Manufacture Newsprint

The proposal to manufacture newsprint in Australia, which has been in the wind for many years, is receiving renewed attention as a result of statements made recently by the Prime Minister, according to the Paper Division of the Commerce Department. Speaking in the Federal Parliament the Prime Minister declared that the Ministry still adhered to its offer made in 1925 to pay a bounty of £4 a ton on newsprint manufactured in Australia from Australian timber.

He took occasion to announce that it has been defin-

itely proved that newsprint can be produced on a commercial basis from Australian hardwood and that two large enterprises contemplated entering this industry. Their arrangements, he said were practically complete.

Speaking of the proposed bounty, it was stated that this would be paid only when a minimum of 30,000 tons a year was produced, but in his opinion that quantity would be very greatly exceeded. A provision will be inserted in the Bounty Bill that if a company makes a profit of more than 10 per cent the bounty will be as proportionately reduced. The State of Tasmania is expected to be the principal seat of the new industry.

Prince George Project Revived

Interest in the Prince George pulp mill project has been revived by the arrival in Prince George of Charles H. Blaikie, of Edmonton, Alberta, and George W. Erb of Winnipeg, Manitoba, who state that the trustees of the J. D. McArthur estate propose to go ahead with the project formulated by Mr. McArthur just before his death.

According to Mr. Blaikie, the Northwest Lumber Co. will carry out the original scheme on a site purchased from the Hudson's Bay Co. south of the Prince George townsite. Mr. Blaikie was in charge of Mr. McArthur's sawmilling interests. Mr. Erb is Winnipeg manager of the Waterous Engine Co., specializing in sawmill equipment, and his purpose in visiting Prince George was to familiarize himself with conditions to be encountered in the handling of logs delivered to the mill by river.

Superintendents Hold Annual Meet in Wisconsin

As this is written the members of the American Pulp and Paper Mill Superintendent's Association were trailing into Wausau, Wisc., to attend the annual meeting of the organization on June 6, 7 and 8. R. H. Kelly, general chairman of the convention committee in late reports stated that the reservations were highly encouraging and were coming in from all parts of the country. It is not known just what representation there will be from the Pacific Coast mills. An instructive program was offered to those attending.

Oregon's Law

Makes a Serious Business of Timber Growing and Gives Permanence to Pulp and Paper Industry

A discussion of the recent legislation given in an interview with

C. L. STARR*

OREGON's Reforestation Act, recently passed by the state legislature, gives the permanence of the pyramids to the state's pulp and paper industry, in the opinion of members of the forestry committee of the Portland Chamber of Commerce, who framed the bill and sold the idea to the chambers of commerce and community clubs throughout the state.

Until this measure was passed many western pulp and paper men secretly regarded the industry as transitory. Their familiarity with the lack of foresight shown by eastern operators in failing to provide a future supply of wood for pulp manufacture convinced them that history would one day repeat itself in Oregon. True, Oregon has one-fifth of the standing timber in the United States; yet if cutting were limited to one per cent a year, it would be only a hundred years until our children's children would be without pulp resources.

For Permanent Production

Carrying out the provisions of the law will not only offset a timber famine in the years to come, but it will also mean that we can cut twice as much as we are now cutting, indefinitely, once all the state's forest lands are put to work. The law will mean stabilization of communities; shifting from timber stand to timber stand will become a thing of the past. Revenue from taxation will be assured, as without a law cut-over lands are often allowed to become delinquent. Established industries will be maintained; transportation facilities will be bettered, and the public as well as the individual will be economically benefitted.

Pulp and paper mill operators will be able hereafter to provide for permanent production. Since the outlay in building such mills has virtually passed out of the individual's reach, growth of this industry means broad ownership and long-time bonds, neither of which is feasible under short-time operation.

Pulp Crops

With the development of the pulp and paper industry on the Pacific Coast, foresters are revising their estimates of returns from forest lands, and I believe that the time is not far distant when pulp crop production, under a yield tax law such as Oregon's new reforestation law provides, will present a good business proposition even to the individual. For he will have assurance that he can realize a fair return within his probable lifetime.

Under the reforestation law, corporations, if not individuals, will be attracted not only to pulp crop production, but also to the growing of long time, more valuable crops. Areas will be handled on what may be termed a "sustained yield basis"—that is, the total annual

growth on an area will be harvested each year in the form of a marketable product from a part of the area. This will make for permanent industries with dependable revenues supporting permanent communities.

This will not happen in a day or a year, but there should be a gradual transformation from our present practice of "timber mining," with its short-lived, shifting communities and its undependable varying tax revenues and increasing areas of idle land, to a practice of "forest cropping."

Oregon has approximately 2,500,000 acres available for reforestation under the new act. Of this amount more than 1,000,000 acres of cut-over lands are tax delinquent. Obviously, there is no revenue from them for fire protection. Further, they constitute a fire menace to adjoining forest areas. Hence it will be seen that the law will result in a fair, dependable tax revenue from forests now growing or to be grown. This revenue will be represented largely by a definite percentage of the gross yield, and, of course, the greater the yield the greater the revenue both to state and owner.

Listing and Classifying

If the law remains on the statute books it will ultimately result in the state owning all forest growth on 12½% of the entire forest area in private ownership, which is equivalent to a state forest of more than a million and a quarter acres, there being about 13,000,000 acres of timber lands in Oregon. The state will collect a forest fee of five cents an acre, and, in addition without one cent of outlay, acquire all the forest growth on 1,250,000 acres.

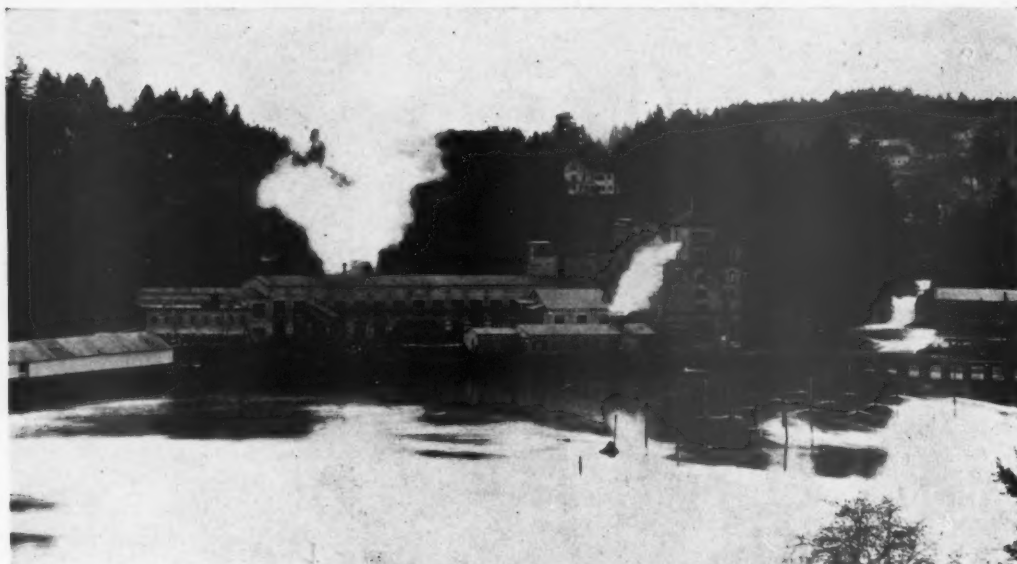
The first step in administering the law will be the listing of low-valued forest lands by counties. Later the lands will be classified. Following classification a hearing will be held in the county in which the lands are located and an order issued either for or against the classification.

The law provides a flat forest fee of five cents per acre while the land is restocking itself, either naturally or artificially, and a yield tax of 12½% at maturity or when harvested. A permit is required when the crop is harvested, and the owner must keep a record of all crops harvested and make payment of the yield when due.

Fifteen Years of Effort

In a greater percentage of logged-off land, artificial reforestation or planting will be unnecessary, as nature will restock the areas in question in about ten years, provided the land is protected from fire. Where a reforestation program is necessary, the cost for planting will run from seven to fifteen dollars an acre. Inasmuch as two-thirds of the forest lands lie in the moisture

*Mr. Starr is a prominent Portland attorney and an active member of the Forestry committee of the Portland Chamber of Commerce, framers of the Oregon Reforestation Act.



The Tumwater Paper Mills which have been acquired by the Leadbetter paper interests.

belt west of the Cascades, natural reforestation takes place rapidly.

It is not anticipated that any effort to change or amend the bill will be made until the state has had ample opportunity to give it a fair trial. The consensus of opinion is that the act is sound and sensible, and that both the public and the industry will receive justice through its enforcement.

The bill is the culmination of 15 years of effort on the part of those interested. Commenting on the prejudice against passing the act at previous legislative assemblies, it should be pointed out that it is difficult to interest the individual in returns which will be realized a hundred years hence. Things that will happen in his lifetime absorb his time and interest, and he is very much inclined to let the future take care of itself.

Howard J. Eberly, formerly Oregon deputy state forester, but for the past five years chief of the forestry department of Texas, has charge of classifying which lands shall come under the reforestation lands classification of the new law. Mr. Eberly, whose headquarters are at Salem, and who is a graduate of the forestry department of Oregon Agricultural College, assumed his new duties early in May, beginning his work in Clatsop County.

Those Who Framed the Reforestation Act

Following is the membership of the Forestry Committee of the Portland Chamber of Commerce:

W. S. Babson, Director in Charge.

Sinclair Wilson, Chairman.

R. H. Chapler

E. S. Collins

A. W. Cooper

F. A. Elliott

G. T. Gerlinger

Rodney Glisan

C. M. Granger

Fred Greenwood

J. D. Guthrie

H. D. Langille

David T. Mason

T. T. Munger

Geo. W. Peavy

Harry L. Potter

Henry E. Reed

W. C. Ruegnitz

E. B. Tanner

Aubrey Watzek

L. J. Wentworth

C. L. Starr

Frank M. Byam, sec.

Open Big Oregon Timber Region

Development of the vast timber territory to the east of Albany, Oregon, is seen in last month's announcement of a 40-mile extension up the Santiam Valley from the main line. Actual construction of the extension should be started early this summer, and the line completed far enough to permit of timber operations along its route early next year, according to a statement made by W. F. Turner, president of the railroad.

The new territory which the railroad will invade contains one of the finest stands of virgin timber yet remaining in Oregon. The actual amount of timber is variously estimated at from 20,000,000,000 to 30,000,000,000 feet. Much of it consists of hemlock and white fir, according to a local pulp and paper mill engineer familiar with the district.

Because of the lack of transportation facilities, little of the stand has been drawn on for either saw-timber or pulp mill use. Possibly the only outlet for pulp timber from the territory has been at the Crown Willamette mill at Lebanon, the supply being floated down the Santiam River in the form of cordwood during highwater. Opening up of the tract will obviate the necessity of carrying large quantities of wood at Lebanon, as a consistent supply by rail will be assured, it was said. It is also considered probable that the Salem and Oregon City mills will profit through the development project, as these mills are at present dependent on wood shipped from greater distances.

With transportation facilities assured into what is said to be one of the finest stands of virgin timbers yet remaining in Oregon, possibility is seen of establishment of a pulp mill at Albany. The later has been under consideration for sometime, various companies having been approached by a group of business men in that city. Nothing definite regarding a proposed mill could be learned, although a member of local city council intimated that a public announcement of pulp and paper mill for Albany might be expected shortly.

Hawley Gets Tax Refund

A refund of \$24,193 to the Hawley Pulp & Paper Co. on its tax return for 1920 was announced from Washington, D. C. in May.

Backyard Opportunities

For Paper Mulch Sales*

IN thinking in terms of paper mulch one is apt to fall into the error of thinking only in terms of the vast pineapple fields and entirely overlook the little two-by-four gardens that are to be found in the backyard of almost every home in the land. Of course, the big pineapple fields or other great commercial gardens are impressive in themselves, in point of size, and entirely overshadow the little postage stamp plot out by the back fence, but it is perhaps safe to say that the total cultivated area in the millions of homes in this wide land present a very impressive aggregate, a figure we can only hope to guess at since we lack a statistician sufficiently diligent to tackle the job of census.

Suppose a home, which we might say is average for that great mystic figure "the average citizen", has a garden strip ten feet wide across the width of the lot.

—or perhaps you can stop the questioning right with your own self. The job then is to educate Mr. Average Citizen to the uses and benefits of paper mulch, to show him how he can get out of a lot of weeding while at the same time getting bigger and better flowers, fruit and vegetables and still have thrown into the bargain more time for his favorite hobby, be it golf, fishing or what have you.

A Seattle man writes as follows:

"This mulch paper is very fine for our use because we have a clay soil which cakes and cracks and requires much cultivation otherwise. We are primarily flower growers and have not raised vegetables enough to make comparisons, but there is no doubt but what our aster and snapdragon plants were larger and healthier than ever before and certainly saved us much watering

Cantaloupes
Grown Under
Paper Mulch
in a
British Columbia
Experiment
Gave An Increased
Yield of 300%



That would be 400 to 450 square feet of cultivated area, just about a job for one roll of mulch paper. In addition to this little garden patch with its few rows of this and few rows of that there are more than likely a few shrubs about the house, rose bushes, climbing vines, and what not. All told then Mr. Average Citizen has call for one or possibly two rolls of paper mulch—provided he can be sold on the idea of paper mulch itself.

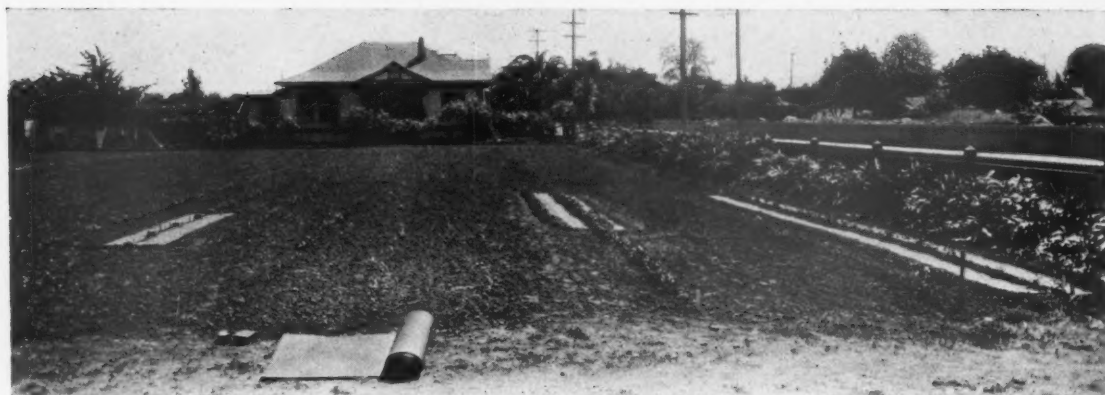
We take it for granted that he knows nothing about it. Taking this maximum negative as starting point we can not be very far off. To test the statement you might ask your neighbor what he knows of the subject

and cultivation . . . All things considered the trial was a huge success and I will use the paper more extensively this year."

Now strolling around the home of Mr. Average Citizen we might suggest that if he would cut out some blanks of paper mulch to put over the area that he is in the habit of keeping cultivated beneath and around his shrubbery he will save himself quite a few backaches. The paper can be cut exactly to size of the earth mulch area and covered slightly with the earth to make it look natural. He is through for that year with keeping the weeds and other vegetation out of that plot, and his shrubs are going to require a great deal less water also.

This idea can be worked extensively, from the single

*A companion article entitled "Paper Mulch—The Magic Carpet of Today's Garden" was published in the March, 1929, issue of PACIFIC PULP & PAPER INDUSTRY.



It Is in the Backyard Gardens That Paper Mulch Is Going Through a Wholesale Experimenting and Proving Its Case

rosebush or shrub out in the center of the lawn to the long strip at the side of the lot. Cut the pattern out and apply the paper mulch. But, remember, Mr. Average Citizen doesn't realize perhaps that he is able to do any such thing, and somebody has to get the idea across to him.

Perhaps around the base of some of the taller shrubs Mr. Average Citizen will want to plant a few low plants. Nothing to prevent. He can poke a few holes in the paper mulch and put his plants in just where he wants to and he will not need to weed them either.

Out there in the back garden our friend and neighbor will find that some strips of paper mulch laid between the rows will give him a nice clean garden and the stories he will have to tell his cronies down at the office about that tomato plant which he has been coddling, about that melon vine he has been training over the fence, these stories will be "bigger and better" the same as the vegetables themselves.

Figuring It Out

Well, a roll of paper mulch, or even two rolls isn't a sale to write home about or one on which to jolt the boss for a raise. But, the man who lives next door to Mr. Average Citizen may look over the fence and try to discover just why it is that Mr. A. C. has so much time these days to play golf, as we've pointed out before.

To get down to cases more briefly, with the home owner taking generally to the idea of paper mulch, educated up to it, and getting to believe he just can't do without it in this age of speed and waste motion elimination, 100,000 sales of one or two rolls each in the average city is going to represent quite a tonnage in the end.

So far we've mentioned only the homes. Around many public and semi-public buildings and institutions there is usually a measurable cultivated area devoted to flowers and shrubs. Examples in this group are hospitals, cemeteries, public parks, etc. Often the amount of shrubbery and flowers that can be cared for is limited more by the pocketbook than by the love of plant life. Now, if paper mulch were to be brought into the picture there is good reason to believe that our parks might have more flower beds with no greater payroll for attendants. Taken over a city of 100,000 population or more the potential paper mulch area in this group presents a total figure worth consideration.

If some one asks for figures, a few can be quoted at random to give the idea of size. The Portland Chamber

of Commerce estimates that some 50,000 acres in and around Portland are devoted to gardening, both domestic and commercial. One florist in San Francisco sets out as many as 50,000 rose bushes and 75,000 carnation plants in a single season. Of commercial florists, nurserymen and seed growers to be found in and about every city, Seattle estimates it has about 75, Portland about 100, San Francisco—the third largest flower market in the world—has 150, while Los Angeles in Sunny California claims about 200.

If you have a mind for figures you might attempt estimating the potential market for paper mulch, in terms of number of rolls. The Paraffine Companies, Inc., which manufactures the paper under the Erkart patent for the Western States, makes rolls 18 inches



A Field of Onions Profiting by the Aid of Paper Mulch

and 36 inches wide and 150 feet long. The Sidney Roofing & Paper Co. of Victoria, B. C., which holds the patents for Western Canada, makes 133 foot rolls in three widths, 12 inches, 18 inches and 36 inches. Your figures may run into miles, but remember that 4000 miles of mulch paper were laid in the Hawaiian pineapple fields in 1927.

However, before someone shouts "theorist" we hasten to add that the potential market for paper mulch is far more than a mere problem of arithmetic. No one today can say what paper mulch tonnage is going to be sold tomorrow. But this much can be said, "The idea itself of using paper mulch has not yet been really sold to Mr. Average Citizen and his millions of neighbors." Let us sell the idea first and then think in terms of tonnage.

Acknowledgement is made to the Paraffine Companies Inc., and to the Sidney Roofing & Paper Co. for the loan of photographs used in connection with this article.

RECENT TRIMBEY DEVELOPMENTS

TRIMBEY-SHEVLIN CENTRIFUGAL PULP SCREEN

Patented in Canada, April 2, 1929, U. S. A. and Foreign Applications Pending

"SPECIAL" AUTOMATIC CONSISTENCY REGULATOR

Patent applied for

TRIMBEY HEAD BOX ELIMINATOR

Patent applied for

"THIN STOCK" AUTOMATIC CONSISTENCY REGULATOR

(For consistencies down to 0.7%)

WE ALSO MANUFACTURE

Trimbey-Tibbitts Proportioning and Metering Systems

(131 Systems now in use in U. S., Canada, Newfoundland and TEN Foreign Countries, with a total rated capacity of FIVE MILLION TONS of Paper per year).

Trimbey Automatic Consistency Regulator

(915 Regulators in use in the U. S. and TWENTY Foreign Countries, on all grades of pulp and paper stock from the finest rag stock to the cheapest grades.)

Metering Stuff Boxes

(Driven by motors synchronized with the Paper Machine Drive and delivering stock at a uniform basis rate regardless of speed of Machine).

Float Valves for Pulp and for White Water

(More than 300 in use).

Motor Driven Color Meters

(For adding Color directly at Paper Machine Stuff Box.)

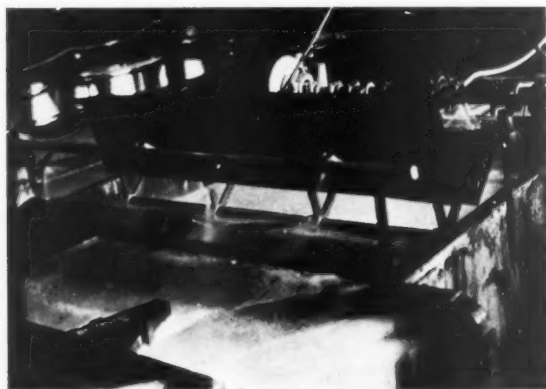
TRIMBEY MACHINE WORKS

Glens Falls, N. Y.

When writing to Trimbey Machine Works please mention Pacific Pulp and Paper Industry.

The Trimbey Head-Box Eliminator

(Patents Applied for in U. S. and Canada)

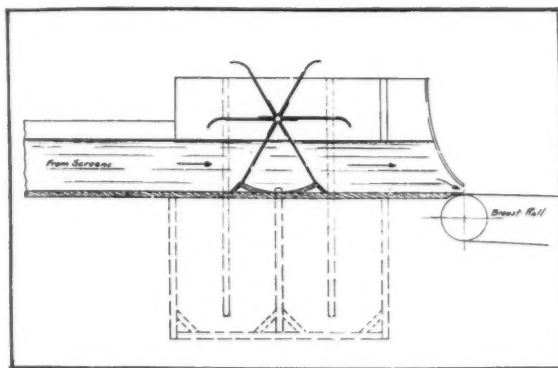


The purpose of a Head-Box on a Fourdrinier machine is to equalize the flow from the screens and evenly distribute the stock across the width of the "slice," and the various methods of using stationary baffles, revolving perforated rolls, miniature "picket fences," etc., have not been entirely satisfactory.

This ELIMINATOR is simple in design, easy to install, positive and effective in its operation.

In construction it consists of a light brass roll with bronze journals mounted in lignum vitae bearings, carrying spiders to which are attached six "AEROBOARD" blades extending across the entire width of the pond. At the outer edge of each blade is a strip of best quality rubber overhanging several inches so that it bends of its own weight and therefore enters and leaves the surface of the liquid at approximately right angles to same and without creating a "wave."

All cross currents and eddies are entirely smoothed out, since there is always one blade interposed between the screens and the "slice." It rotates slowly, at from two to four revolutions per minute, moved entirely by the advancing current of flow through the pond and there is absolutely no variation in head behind the "slice."



Only a few hours' labor is required to adapt the old style head box to receive the Eliminator. Just remove the two top baffles, build a false bottom across from the screen spout to the apron and attach the bearings to the sides of the box.

Quality is improved, due to the greater uniformity of the sheet. More water can be carried and formation improved.

Production is increased by reason of fewer breaks and less time required for washing up on account of "slime," since by replacing the long tortuous passage by a short shallow spout the surface area for the accumulation of "slime" is reduced to a minimum. No dead corners for the accumulation of lumps and slugs.

TRIMBEY MACHINE WORKS

Glens Falls, N. Y.

Trimbey-Shevlin Centrifugal Pulp Screen

(Patented Canada Apr. 2, 1929, U. S. A. and Foreign Applications Pending).



This is not the remodelling of an old screen, but an entirely new design from base to cover, taking advantage of well known hydraulic laws.

Built in two sizes:—

The "Junior" illustrated here has a capacity of 40-50 tons per day on Ground Wood, with stock at 0.5% through 0.065" perforations and using only 20 horse power.

The "Senior," of the same diameter but using a plate one-third longer, has a capacity of 60 tons per day.

The "Junior," operated as a Second Screen and using 0.065" perforations and 10 horse power, will handle the tailings from 100 tons grinder room capacity.

Satisfactory screening at consistencies up to 0.75%.

Tailings elevated into Second Screens without pumping.

Exceptionally low power required through utilization of the energy of the incoming stock.

No shower water used.

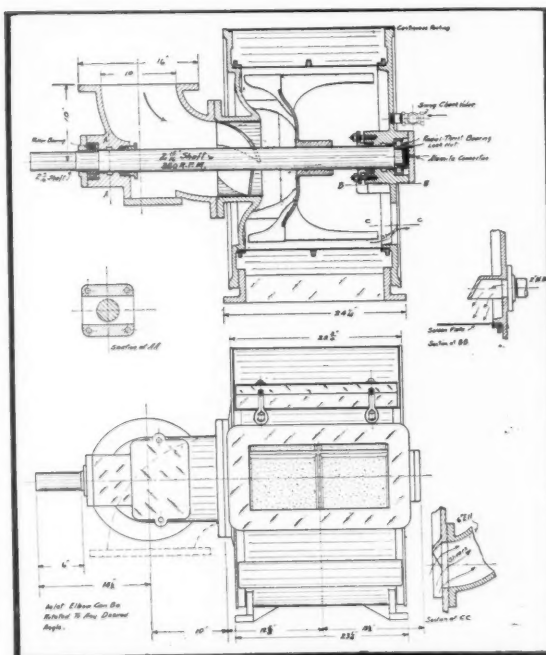
Screened stock remarkably free from slivers.

Rejections from First Screens only 5% to 7%.

Rejections from Second Screen re-washed before leaving screen.

Absolutely no clogging of plates with slivers.

One-piece cast bronze rotor for "Senior" screen weighs less than 100 lbs. Not a single bolt or nut to loosen and cause damage.



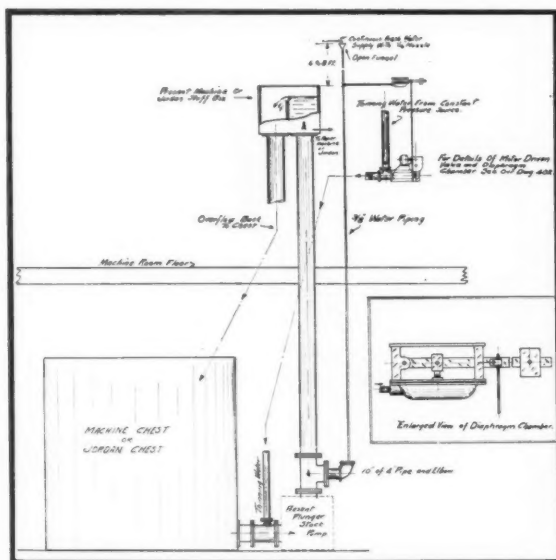
Not sold on a "Money back if not satisfied" basis, but we will gladly furnish a screen for 60 days' trial for comparative tests against any screen on the market.

TRIMBEY MACHINE WORKS

Glens Falls, N. Y.

(Patents Applied for in U. S., Canada and Foreign Countries.)

(Patents Applied for in U. S., Canada and Foreign Countries.)



Not affected by dirty stock.

No clogging with strings or rubbish.

No changes in stock piping required.

No sampling or pumping of extra stock through by-pass.

No Mixing Box, Regulator Vat or Catcher Box to wash out when changing colors.

Water control valve can be placed in convenient location near floor if desired.

Variations in friction head in main stock pipe utilized to operate diaphragm controlling water valve.

Sensitive to changes of 2 to 3 hundredths of one per cent consistency.

“Thin Stock” Consistency Regulator

We are now prepared to furnish a modified design of the Trimble Automatic Consistency Regulator suitable for consistency control in the range from 0.7% to 1.8%.

Adapted for use with Pulp Moulding Machines, Rogers Wet Presses, Kamyr Presses, etc., where an accurate control at low consistency is required.

TRIMBEY MACHINE WORKS

GLENS FALLS, NEW YORK

Also MADE IN CANADA

Foreign Agents:—

Anton D. J.Kuhn, Bad Liebenwerda, Germany

Norman Engineering Co., London

Lorentzen and Wettre, Oslo.

Lorentzen and Wettre, Stockholm

Charta Corporation, New York and Tokyo

Printed in U. S. A.

Big Power Project in Southwest Washington

A new 37,500 h.p. hydro-electric project to serve domestic and industrial needs of Grays Harbor and Willapa Harbor has been started on North River by the Western Washington Electric Light & Power Co. This company is a subsidiary of the Federal Light & Traction Co., owner of the Grays Harbor Railway & Light Co. of Grays Harbor. The project is to cost about \$3,500,000, according to the announcement.

It will include a big reservoir having a surface area of more than 7,600 acres, a dam about 120 feet high and 400 feet long at its crest, a power house having two 12,500 h.p. generating units with room for a third unit of the same size and about 40 miles of 66,000-volt transmission line.

Preliminary work on this project has been under way some time, surveys having started in 1926. This development will mark the first hydro-electric development in Southwest Washington.

Installing New Grays Harbor Machine

Installation of machinery in the new paper mill unit of the Grays Harbor Pulp & Paper Co. is more than three-fourths completed now, Manager W. S. Lucey declares. The mill buildings have been completed for more than a month and all present work is confined to machinery installation.

According to Mr. Lucey the building pace set early in the building stages is being maintained and the mill will probably turn over sometime in July.

"We hope to go into production in July," Mr. Lucey states, "but it is as yet impossible to say whether we can or not. It is virtually assured that some paper will be turned out in that month, however."

About 350 men are now working, under direction of engineers from the machinery equipment companies. The new machine is of Bagley & Sewall manufacture.

Straw Mill Plans Financing

Preliminary public financing of the proposed straw pulp plant to be built by the Palouse Pulp & Paper Co. at Palouse, Washington, has been launched, according to an announcement made following a meeting of company directors held in that town last month. About twenty-five thousand dollars has been raised locally, it was said. What amount of money would be needed to complete the financing program was not learned; however, it was reported that a Portland financing firm had been retained to complete the stock sale among Spokane business men. The plant plans to utilize wheat straw in the manufacture of its product, according to H. D. Wagon, originator of the process.

Bellingham Mill May Get Lower Water Rate

The water board late in May recommended to the city council of Bellingham that a new contract be drawn for the Pacific Coast Paper Mills at the request of J. J. Herb, president of the paper mill, who appeared before the board.

Mr. Herb stated that the mill was using a considerable quantity of water but felt that the rates being charged were too great in comparison with other manufacturing concerns of the city.

The Bellingham mill manufactures a line of toilet tissues, towels, napkins and kindred products. Plans were announced recently for increasing the capacity of the mill.

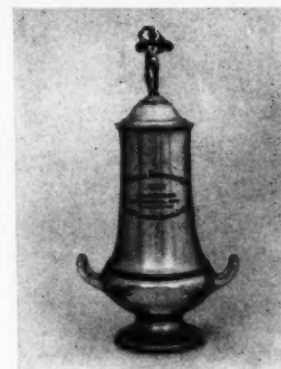
Crown Raisin Paper Float Wins Trophy

The Crown Willamette Paper Co., San Francisco, used a novel means of announcing to the raisin growers of the San Joaquin Valley of California the fact that a new black raisin tray drying paper had been placed on the market to hasten the sun-drying of raisins.

News of this new line of paper was announced



Above is shown
Crown Willamette Paper
Company's prize-winning
float engineered by
HARRY GOEDJE
and below is
the trophy it won.



through the entry by Crown Willamette of a beautiful float in the California Raisin Festival parade at Fresno, April 27. A Fresno beauty rode the float and the sides were decorated with the new paper.

The float won a trophy cup, given for the best industrial parade entry from outside of Fresno. This cup is now in the lobby of the main C. W. office in San Francisco. Harry Goedje of the San Francisco office had charge of the Crown's participation in the Festival.

The new C. W. raisin tray paper speeds drying of raisins, it is claimed, from 15 to 20%. The paper is spread on the ground and the raisins placed on the paper in the sun. It is a black kraft, made at the company's Camas plant.

Experiments have proven that black attracts heat and for this reason the raisin paper is colored black.

Hon. Charles Stewart, Canada's minister of the interior, has called a conference at Ottawa to take place June 25 to consider the advisability of making a thorough survey of the Dominion's forest resources. British Columbia will probably be represented by Chief Forester P. Z. Caverhill. Such a survey would be the first systematic attempt to classify the country's forest and estimate their extent and value since the Commission of Conservation completed its task in 1911.

T-R-A-D-E - T-A-L-K

Devoted to the Paper Trade of the Western States

Printers See Paper Made at Cascade Mill

More than 250 members of the paper, printing and allied trades of Seattle and the Northwest got a first hand idea of how paper is made when on Saturday, May 18, they went on a tour of inspection through the mill of the Cascade Paper Co., West Tacoma, as guests of the mill management and the Carter, Rice & Co., paper jobbers of Seattle. It was the largest delegation of this kind that had ever visited the Cascade mill.

Guests of the paper mill included the greater part of the membership of the following trade organizations:

Ben Franklin Club of Seattle.

Seattle Club of Printing House Craftsmen.

Graphic Arts Salesmen's Club.

These trade clubs are composed of proprietors of Seattle printing plants, pressmen and those engaged in the designing and selling of printing. The respective secretaries of these trade organizations gave their fullest support and assistance in notifying their members, and creating a keen interest in the trip.

The men who made the trip were unanimous in declarations of its value. It brought home to them as nothing else could, a knowledge of paper processes and values, which, the members declared, cannot help but prove of benefit to them as printers.

Steamer Chartered

C. E. Daugherty, secretary of the Ben Franklin Club, a printers' organization, viewed the excursion as being one of the most valuable things the craftsmen as a body have done for a long time. He declared, "The trip was of inestimable value to the printers because it gave many of them their first insight into the actual processes of paper making. Most printers know in a general way the chemical and mechanical compositions of paper but this trip through a mill and seeing the paper pass from the raw material to the finished product instructed them more graphically than anything else could do, and undeniably will be of considerable assistance to them in intelligent purchasing and use of the different grades of papers.

The steamship Vashona was chartered for the event, leaving Seattle Saturday noon. After a 2½-hour trip on Puget Sound the guests were landed at Steilacoom where busses carried them the short distance to the mill. A substantial luncheon was served immediately on leaving Seattle and after the tour of the paper mill further refreshments were served on the return sail.

George W. Forrester, general manager, and Andrew H. Cochran, sales representative, of the Cascade Paper Co., perfected arrangements for showing the delegation through the mill. The guests were divided into groups for the better observation of the plant, and the mill's various activities were explained by A. S. Hooper, general superintendent; A. N. Drips, assistant manager; C. P. R. Cash, pulp mill superintendent, and V. E. Pugh, D. P. Myers and Garfield Rodside of the mill staff.

Arrangements for assembling the delegation were

in charge of the Carter, Rice Paper Co., one of the distributors of the Cascade mill's products. C. H. Beckwith, manager, and E. E. Embree, salesmanager, with other members of this company extended their fullest assistance for the convenience and comfort of the guests.

The party of Graphic Arts craftsmen was augmented by a group of about 50 members of the American Society of Mechanical Engineers who made a visit to the mill at the same time as a concluding event of a convention held at Tacoma.

McWaters Jr. Gets Promotion

W. R. McWaters, son of W. D. McWaters, manager of the Portland Division of the Zellerbach Paper Co., is now in charge of the operating and personnel department of the Portland branch. He succeeds C. A. Freer who resigned early in April.

Mr. McWaters, Jr., born in Seattle 28 years ago, began his paper career with the Portland house in 1919 on a part time basis while attending school. Following his graduation from college in 1921, he returned to the paper house where he has since been employed. Previous to his recent promotion he spent five years as city salesman.

Since taking over his present position, Mr. McWaters has made a number of changes, including the re-arrangement of stocks and re-organization of departments. He has also carried out an efficiency program which has resulted in better warehousing and a general speeding up of orders.

Like father, like son. Correctly interpreted, the foregoing means that both are keenly interested in golf as a hobby.

Bonestell Acquires Greene Paper Co.

Bonestell & Co., the oldest paper jobbing house in San Francisco, has absorbed the Greene Paper Co., which was established in the bay city in 1923 by J. C. Greene, formerly with Blake, Moffitt & Towne. The House of Bonestell has been selling paper in San Francisco since 1852.

"Jimmy" Greene, head of the Greene company, will join the Bonestell forces. It is expected that the business of the Bonestell firm will be increased about 20% by the absorption of the smaller firm.

Griffin Envelope to Install New Machine

"The envelope business is good," declares J. W. Griffin, president of the Griffin Envelope Co., Seattle, and as proof of his contention Mr. Griffin has announced that he is installing another folding machine, which has been ordered and is expected to be ready for action early in July.

An expansion program recently completed at the plant included the installation of three folding machines and a shift of office arrangement to provide extra floor and storage space.

French Making Round-the-World Trip

Fred H. French, head of the Fred H. French Paper Co., Los Angeles, accompanied by his wife and two daughters, sailed on June 24, on the Dollar Liner, President Monroe, for a trip through the Orient on which they will visit Honolulu, points in Japan, and China and other places of interest in the Orient. From the Orient they will go to Europe, spending some little time in various European countries. Mr. French expects to be away from three and a half to four months. The party will return by a Canadian Pacific liner, making the port of Montreal, and after a stay in Canada will go to New York City, and possibly stop off in other eastern cities. Mr. French states that during his absence his son Oliver E. French, assistant manager of the business will be in full charge. After 38 years of continuous service in the paper business, Mr. French feels that he is entitled to a real vacation. He says that his business is making good progress and constantly expanding, and that in the last 90 days a third more floor space has been added to the business' facilities, and an increase made in the number of employees.

Bishop Opens San Francisco Sales Office

Robert C. Bishop, formerly western representative of the Whiting Paper Co., has opened an office in the Sheldon Building, San Francisco, to handle a number of middle western paper lines.

Mr. Bishop represents the following mills: Allied Paper Mills, Kalamazoo; Hawthorne Paper Co., Kalamazoo; Peninsular Paper Co., Ypsilanti, Mich.; Detroit Sulphite Pulp and Paper Co., Detroit; Rochester Paper Co., Rochester, Mich., and The Northwest Paper Co., Cloquet, Minn. With the Rochester company Mr. Bishop covers all the coast except San Francisco and Los Angeles.

Mr. Bishop is well known along the entire coast. At one time he was located in Portland, Ore.

Mrs. Tompkins Attends Advertising Meet

Nancy Baker Tompkins, head of the advisory department of the Los Angeles Division of the Zellerbach Paper Co., recently returned from Chicago, where she went as delegate from Los Angeles Advertising Association to attend the convention of the International Advertising Association. Mrs. Tompkins is president of the Los Angeles Advertising Association and during the convention rendered a most able report of the Los Angeles body's work during the past year. Mrs. Tompkins has just been elected vice chairman of the Los Angeles Patronal Board of the Pacific Geographical Society, and her pleasing personality and helpful activities in various directions have gained many friends for her in different Los Angeles circles. Mrs. Tompkins is attending the convention of the Pacific Coast Advertising Clubs Association at Oakland.

Hollis Is California Visitor

Howard Hollis, president of the Hollis & Duncan Paper Co., Chicago, and wife have been spending a month in Los Angeles and other Southern California points. Upon reaching Los Angeles, Mr. Hollis looked up his old-time friend, L. P. Sine, and during his Southern California stay, he and Mr. Sine spent some most enjoyable hours recalling the old days in Chicago.

L. G. Older, assistant Pacific Coast manager for the Brown Co., Portland, Maine, with headquarters in San Francisco, recently spent some time in Los Angeles.

The Circus Comes To Town

Sollie Friedenberg gave Barnum & Bailey stiff competition May 15 when he put on a one-ring "Paper Peddlers' Circus" which was attended by more than sixty paper trade and paper mill chiefs from east and west.

The affair was held at the Hotel Mark Hopkins, San Francisco, and immediately followed the Pacific States Paper Trade Association convention at Del Monte and the annual Zellerbach Paper Co. convention at San Francisco.

There was a three-hour performance of the circus talent, directed by Frank Shaw, San Francisco entertainer, who acted as ring master. There were side shows, barking ballyhooers and a pink lemonade stand where lemons were really used.

Out of the evening's jollity there was created a social organization, known as the "Paper Peddlers" which will, in the future, have charge of such affairs. Everybody present joined the association by signing the creed, which was passed from table to table.

Carter, Rice Merges With Esty

An eastern merger which effects the Pacific Coast is the recent joining of Carter, Rice & Co. and Charles A. Esty, a leading eastern distributor.

Under the merger, Carter, Rice & Co. gains one division at Worcester, Mass., and additional warehouse and jobbing facilities at Boston, the home office of the organization.

The new arrangement of executive officers makes H. L. Carter, president; Winthrop Carter, vice-president; Charles Esty, managing director; J. C. Kennedy, treasurer; and L. W. Angell, secretary.

C. H. Beckwith is Pacific Coast manager for Carter, Rice & Co.

Roy Swain Has New Office

Roy A. Swain, representative of the L. L. Brown Paper Co. on this coast, making his headquarters in Los Angeles, has moved his offices from the Transportation Building to 337 H. W. Hellman Building. As this is written, Mr. Swain is about to leave on a trip up the coast, and in returning to Los Angeles will visit Montana, Colorado and Utah.

Zellerbach Spokane Jobbing Branch Burns

Fire swept the fourth floor of the Spokane division of the Zellerbach Paper Co. on June 4 and damaged stocks estimated as much as \$2,000,000. Manager Fred A. Stockwell said that crepe paper stored on the fourth floor "burned as stubbornly as sawdust."

Paper Men at Shrine Doings, L. A.

The streets of Los Angeles were gay with decorations and colorful costumes the second week in June, when the Shriners thronged the city for their national convention. Among the hosts of happy Nobles was Earl Braden, treasurer and secretary of the Spokane Paper & Stationery Co., and Potentate of the Spokane Shrine. Uncle Bob Crump, president of the Standard Paper Manufacturing Co. of Richmond, Virginia, who has been spending some little time in Southern California, dividing his time between business and golf, also was a delegate to the convention.

T. G. Ashworth, auditor of the D. L. Ward Co., Philadelphia, also came out for the convention, but devoted some little time to making a study of the paper houses in Los Angeles, giving particular attention to the methods of warehousing and merchandising methods employed on this coast.

**Set-up
Folding
Corrugated
Solid Fibre**

BOARDS and BOXES

**A department for interests allied
with the pulp and paper industry**

**Board
Mills and
Paper
Converters**

All Set For Box Convention

Bigger and better than ever!

This is the prediction being made for the fifteenth annual convention of the Pacific Coast Paper Box Manufacturers' Association, to be held at Del Monte June 24-26.

W. H. Thomas, San Francisco, Fibreboard Products, Inc., chairman of the general convention committee, says he thinks this year's attendance will be greater than it was a year ago. Reservations are coming from north and south in goodly numbers.

The large attendance is expected, despite the fact that six of the member plants have merged into one company, the Consolidated Paper Box Co., since the last convention. It is believed that the former convention representatives of the Consolidated companies will be at Del Monte as usual.

The fact that three more Pacific Coast box plants have applied for membership also is an indication of larger attendance. The three plants who are seeking entrance to the association are: Advance Paper Box Co., Los Angeles; F. C. Stettler Manufacturing Co., Spokane and San Diego Paper Box Co., San Diego.

A constructive and entertaining program for the convention has been mapped out, with the main theme being the reconstruction of a dilapidated paper box plant.

The opening of the convention will show the old plant and in the theoretical reconstruction work there will be discussions on every step taken. All the delegates are expected to participate and give their views and counsel regarding the improvements.

Vancouver in 1930?

Association politicians are predicting that the next president will be Charles Ruble, Los Angeles, Standard Paper Box Co. Mr. Ruble is vice-president now and it is customary for each convention to elevate the vice-president to the presidency. Russell Barker, head of National Paper Box Co., Vancouver, B. C., is this year's president.

Vancouver may lose the presidency at the coming meeting, but it is probable that it will gain the 1930 convention. Last year Mr. Barker urged the delegates to meet in his home city this year. He was voted down but was promised serious consideration for the 1930 meeting. At this writing it is not now known if other Coast cities are contemplating inviting the association for 1920.

Of course there will be plenty of golf at the Del Monte meeting. Each year these paper box golfers are getting better and better and the battles for the convention title wage warmer as time goes on. Last year W. H. Thomas carried off the honors.

The convention committees this year are:

GENERAL CONVENTION COMMITTEE—W. H. Thomas, Fibreboard Products, Inc., San Francisco, chairman; R. O. Comstock, Charles J. Schmitt Co., San Francisco, secretary.

EXECUTIVE COMMITTEE—Will J. Warren, Consolidated Paper Box Co., Oakland; Richard Schmidt, Schmidt Lithograph Co., San Francisco; W. J. O'Donnell, Fleishhacker

Paper Box Co., San Francisco, and R. J. Gruenberg, Boxboard Products Co., San Francisco.

FINANCE COMMITTEE—Richard Schmidt and R. J. Gruenberg.

PROGRAM COMMITTEE—Gus Trost, Fleishhacker Paper Box Co., San Francisco; Ralph York, Consolidated Paper Box Co., San Francisco; Carl R. Schmidt, Schmidt Lithograph Co., San Francisco; Russell Barker, National Paper Box Co., Vancouver, B. C., and Charles Ruble, Standard Paper Box Co., Los Angeles.

GOLF COMMITTEE—A. J. Schoephoester, Union Paper Box Co., Seattle; Charles W. Hering, The Hersee Co., Los Angeles, and A. Korbel, Consolidated Paper Box Co., San Francisco.

ENTERTAINMENT COMMITTEE—Dave Sahlein, Boxboard Products Co., San Francisco; Jack Raisin, Consolidated Paper Box Co., San Francisco; S. C. Caldwell, Zellerbach Paper Co., San Francisco; M. V. Brooks, Pacific Straw Paper & Board Co., San Francisco, and W. Kelley, Fibreboard Products, Inc., San Francisco.

CALCUTTA POOL COMMITTEE—W. Graham, Fibreboard Products, Inc., Los Angeles.

INVITATION COMMITTEE—R. O. Comstock and Hugh Peat, association secretary, San Francisco.

RECEPTION AND SOUVENIRS—Louis E. Raisin, Consolidated Paper Box Co., San Francisco.

PRESS, HOTEL AND TRANSPORTATION COMMITTEE—Hugh Peat.

Palmer Chase To Move Plant

The Palmer Chase Co., manufacturers of folding paper boxes, are planning to move their plant from 6011 Adeline St., Oakland, to a new and larger building to be erected at Tehama and Monterey Sts. in Richmond, Calif. Richmond lies to the north of Oakland and is one of the growing industrial cities facing San Francisco Bay.

Land for the new plant was purchased by the Palmer Chase Co. in May and construction will start soon. The new establishment is to cost approximately \$15,000 and will contain around 10,000 square feet of floor space. New equipment is to be added.

The Palmer Chase Co. was established in Oakland about five years ago.

Barker to Enlarge Vancouver Factory

Large-scale expansion of the National Paper Box Co., Vancouver, B. C., is being planned by R. E. Barker, president of the company, who is expected to return to the Coast in a few days after completing arrangements in eastern Canada for the new construction program.

Mr. Barker's announcement lays at rest rumors that had been circulating to the effect that he had disposed of his interest in the company. According to a wire sent by Mr. Barker to R. H. Arnott, industrial secretary of the Vancouver Board of Trade, from Toronto, Mr. Barker has no intention of selling out, although reports are still current that he will take an important part in the organization of a new pulp and paper project in British Columbia in the near future.

While in the East Mr. Barker ordered several new producing units for his paper box factory, and it is understood that plans are being completed for the

manufacture of some of the machines in Vancouver, which will be the first time that such equipment has been made in Western Canada. Details concerning this, however, are not yet available.

Enough is known of the National Paper Box Co. expansion program to indicate that at least 50 employees will be added to the payroll.

This marks another important epoch in the affairs of the company which Mr. Barker organized in 1915 with a staff of only six operatives. At present the company employs 55 men and women, so that the program now being embarked upon will practically double the working force. Mechanical units already installed represented an investment of about \$110,000. The new machinery is expected to be in operation late in August.

Mr. Barker has been attending the convention of the International Paper Box Makers Association and he plans to attend the convention of the Pacific Coast Paper Box Manufacturers Association at Del Monte, Calif., late this month. He is president of the Pacific Coast organization.

Stettler Launches the "Show Boat"

National distribution of "Show Boat" candy boxes was begun last month by F. C. Stettler Manufacturing Co., Portland. Initial distribution of the new containers was timed to reach the wholesale candy trade in sufficient time to allow for special displays by retailers just before and during "Show Boat" week at local picture houses. The new box, which bears a striking likeness to the bound volume of "Show Boat," is meeting with a cordial reception, stated Theodore Rothschild, secretary of the company.

Representatives of the Universal Film Corporation, who granted the Stettler company permission to adopt and market the new package, are highly enthusiastic over the tie-up the Portland box company is making with the film where shown, and Mr. Rothschild, who originated the package has received a number of complimentary letters on his innovation.

The "volume" is bound in attractive orange-colored boards. Several pages precede the container proper. One of the pages gives a close-up of Laura La Plante and Joseph Schildkraut, picture stars. On two of the pages following the stars pay their respects to the "book."

Box Men Sit In On Paper Industries Convention

Representatives of Denver box makers sat in on the meetings of the Paper Industries Association held at the Palmer House in Chicago on May 23 and 24. Ernest H. Braukman, Continental Paper Products Co., W. H. Hildebrand, Inland Paper Box Co. and George W. Beck, receiver for the Colorado Paper & Pulp Co., were the Denver men making the trip. They were particularly interested in the conferences of the paperboard, the corrugated box and the folding paper box divisions. Matters pertaining to the ways and means of putting the industry on a more satisfactory basis were discussed.

Stationery Firm Suffers Fire Loss

A fire breaking out in a rubbish box on the fifth floor of the W. H. Kistler Stationery Co. at Denver on May 23 resulted in a loss of about \$3,000 in stationery of the firm. The fire broke out early in the morning, smoldered for considerable time before the

flames created enough heat to release the automatic sprinkler system and turn in the alarm to the fire department. Firemen were delayed in entering the building because of the necessity of battering in the doors and meanwhile the sprinkler system was playing havoc with stationery stored on the floor. A large order of pamphlets for the Denver Tourist Bureau was among the finished work destroyed.

Deline Displays Wares At Confectioners' Meeting

Irving A. Deline, president of the Deline Manufacturing Co. of Denver, put on an elaborate display of candy boxes at the convention of the National Confectioners' Association held at West Baden, Indiana, the last week in May. Before returning to Denver Mr. Deline took occasion to look over the mid-western field in the interests of his business.

Holman Entertains Shrine

Rufus C. Holman, head of the Portland Paper Box Co., Portland, was chairman of entertainment for the Shrine guests stopping in that city enroute home from the Los Angeles convention during the week of June 9. In addition to scenic drives and other features, the visitors were guests of the local Shriners at the Zem Zem Club in the Oregon Building.

Weiler Joins Inland Paper Box Company

Louis T. Weiler, for several years past identified with the Colorado Paper & Pulp Co. at Denver has joined forces with the Inland Paper Box Co. in that city.

United Paper Box Offering Shares

"Between 30,000,000 and 40,000,000 paper boxes are used annually in San Francisco and the Bay region alone. Practically every line of industry is now using paper boxes. The candy business is making a greater demand for fancy boxes. Vending machinery is taking a large number, and soon potatoes and other commodities will be shipped, sold, and delivered in paper boxes of sizes to meet family requirements," states Morris Spiegelman, chairman of the Board, United Paper Box Co., in a foreword of a booklet issued by his company telling of the newly merged organization and the better earning power that makes the stock in the new company attractive.

The booklet tells of "the humble paper box" and gives a brief treatise on the function of the paper box in this modern day of attractive packages and unit merchandising.

PRODUCTION OF BOXBOARD

April, 1929

Based on reports to the U. S. Department of Commerce.

	Production	Per Cent of Capacity	New Orders	Unfilled Orders End of Month	Stocks End of Month
1929—					
April	250,957	87.1	250,577	98,162	57,678
March	*256,118	*88.9	*266,895	96,209	54,982
First 4 months.....	983,399	86.0	986,153		
1928—					
April	221,079	80.4	211,304	84,513	40,319
First 4 months.....	864,167	77.3	875,636		

*Revised.

*New Types
New Models
New Machines*

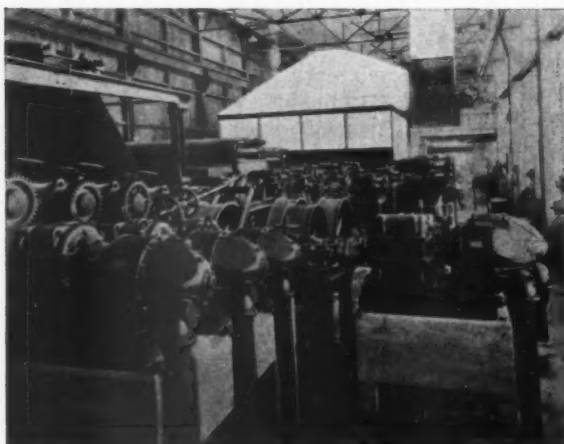
EQUIPMENT

Manufacturers of, and dealers in, equipment used by pulp and paper mills, board manufacturers, converting plants, paper merchants, or any other branch of the industry may make their announcements in this department.

*New Dealers
New Branches
Appointments*

Individual Motor Drive For Baby Presses

Although the individual electric motor drive has become standard equipment for the main sections of paper machines, the Pacific Coast claims the first application of the individual drive to the baby presses and cylinder moulds of a cylinder machine. The application has been made on the Black-Clawson kraft board machine installed at the Port Townsend, Wash., mill



New type Westinghouse individual motor drives for baby presses and cylinder moulds installed on cylinder machine of National Paper Products Co., Port Townsend, Wash.

of the National Paper Products Co. The Westinghouse Electric & Manufacturing Co. designed and built the new type drive.

According to the Westinghouse it is believed that the practice inaugurated at the Port Townsend mill will be justified for all cylinder machines, in reduced cost of felt replacements and better grades of product obtained.

The seven cylinder moulds which pick up the semi-liquid paper stock are each driven by a 3 h.p. motor; the five baby presses which begin its consolidation are driven, some by $7\frac{1}{2}$ and some by 15 h.p. motors, and the "first press", the first of the main sections, has a 100 h.p. motor. All these motors must be in the most exact relative speed adjustment. That this was actually the case, was proven by a two-inch strip of surgical braid run through during tests without looping or stretching.

Another feature of importance in this new mill is the use of carbon pile voltage regulators. Having effective anti-hunting means, the regulator is particularly fast in its correction of voltage, but nevertheless stable in action and rugged in construction. It requires less maintenance and less skillful attendants than former regulators with vibrating contacts. On this Port Townsend machine, two are used, one regulating the voltage of the main generator (applied to all motor

armatures), and the other keeping constant the separate excitation circuit which supplies all the motor fields. Exact regulation is a matter of almost incalculable importance in the satisfactory operation of a paper mill.

Carbon pile regulators also control single motor paper machine drives. Such applications have been made in Beckett Paper Company of Hamilton, O., the Eddy Paper Company of Three Rivers, Mich., the New York & Pennsylvania Company of Lock Haven, Pa., and the Frazier Paper Company of Madawaska, Me.

Portland Steel Plant Busy

The revival of business in the lumber, logging and pulp and paper industry is reflected in the growth of Portland's oldest and largest machinery manufacturing and steel fabricating plant, the Willamette Iron & Steel Works.

The plant during the last 25 years has paid out approximately \$34,000,000 for wages. Indications are that within the next sixty days over 300 men will be employed daily.

The new steam electric generating plant of the Puget Sound Power & Light Co., under construction at Renton, Wash., will be equipped with high pressure cast steel water and steam fittings now being manufactured at the Willamette plant.

The company has specialized in the building of sulphite digesters used for the cooking of wood pulp and for the past twenty years have built a large majority of such vessels used on the Coast. Two digesters have recently been installed at Empire, Oregon, for the Sitka Spruce Pulp and Paper Co.

Stebbins Makes Some Organization Revision

The Stebbins Engineering & Manufacturing Co. of Watertown, N. Y., has completed some policy revision that looks toward more aggressiveness in marketing their patented chemi-pulp process. T. L. Dunbar has resigned as active manager of the company's Montreal office to become president of Chemipulp Process, Inc., a Stebbins subsidiary, to represent this organization in Canada. A. D. Merrill resigned on June 1 as an active member of the Stebbins' Watertown office to establish separate offices for Chemipulp in the United States to carry on executive and engineering work.

President A. F. Richter of Stebbins, and vice-president of Chemipulp, will continue to direct Stebbins' affairs in both the United States and Canada. E. F. Tucker will assist him in the Montreal office. In the Watertown office President Richter will be assisted by his son, Carl, a sales and service engineer who for the past several years has been associated with the Paper Makers Chemical Corp.

L. W. Dimmock will continue to manage the Pacific Coast office of the Stebbins company at Tacoma. The Tacoma office was established about two years ago.

"Today is Yesterday's Pupil."

EVEN DRYING

is one of the most important advantages from operation of the remarkably efficient

Ross-Grewin High Pressure System

Even drying is the natural result of sweeping the sheet by strong currents of warm air from opposite directions. Small nozzles blowing thin jets of air a high velocity from both sides of machine reach and remove the vapor that otherwise settles along the center of the sheet leaving the troublesome wet peaks.

The small quantity of high velocity air requires ducts and nozzles of only moderate size and these are easily arranged to prevent interference with threading and removal of broke.

For machines using top and bottom felts, where natural ventilation fails, the Ross-Grewin System proves exceptionally effective.



J. O. ROSS ENGINEERING CORPORATION

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CHICAGO

Main Office—122 East 42nd Street
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519 American Bank Bldg.
PORTLAND, ORE.

ROSS ENGINEERING OF CANADA, LIMITED
NEW BIRKS BLDG., MONTREAL

ROSS SYSTEMS

HEATING—VENTILATING—DRYING

When writing to J. O. ROSS ENGR. CORP. please mention PACIFIC PULP & PAPER INDUSTRY

A Forester's View of the Western Olympic Situation

By H. L. PLUMB

Forest Supervisor, Olympic National Forest

THE harvesting of the timber on the western slopes of the Olympic Mountains is a project of gigantic proportions, and one deserving of much study and scientific thought.

The Forest Service is committed to a policy of selling its timber on a sustained yield basis. On this basis the allowable yearly cut from the Calawah, Bogachiel, Hoh, Queets and Quinalt Watersheds would amount to only about 132 million feet. This is only a fraction of the present cut of the region, and it is obvious that if production is maintained at the present level, the bulk of the cut must be obtained elsewhere.

The State is the largest timber owner adjacent to the West Side of the Olympic Forest. The State will undoubtedly adopt some wise policy for disposing of its timber which will return the greatest permanent income, and which will tend to stabilize the forest industry. This is evidenced by the recent announcement of the State Land Commissioner that the State Lands in the Western Olympics will be withheld from sale until a policy has been formulated for the disposition of this timber.

Pulp species (spruce, hemlock and white fir) predominate in the forests on the western slope of the Olympics as will be seen from the following table of estimated stand for these watersheds in the Olympic National Forest.

Watershed—	Total Stand	% Pulp Species	Douglas Fir	Cedar	Annual Cut
Calawah	2,600,000	64%	31%	5%	24 million
Bogachiel	2,900,000	70%	27%	3%	26 million
Hoh	2,500,000	59%	40%	11%	22 million
Queets	3,200,000	71%	12.5%	15.5%	30 million
Quinalt	3,200,000	62%	29%	9%	30 million

With the high percentage of pulp species and the poor demand and low market for hemlock and white fir lumber, there seems to be only one answer, and that is more pulp mills.

The pulp mills now in operation are able to get the larger part of their raw material from the waste from existing mills. It is good business to use this waste from the mills, and the lumber industry is to be congratulated on this progressive action; but what is to be done with the present waste of wood suitable for pulp which is left in the woods to be burned after the logs suitable for lumber have been removed? The logging and manufacture of this material which is now wasted would bring in millions of dollars to the people of the State. Loggers claim that the logging of this small material is unprofitable. Undoubtedly they are right, but ways and means must be found for its economical utilization. The Forest Service feels fully justified in withholding its larger blocks of timber from the market until much better utilization of its timber can be obtained.

From a forester's standpoint, it is extremely gratifying to me that the logging companies are now taking such a keen interest in forestry. Many of them are now thinking about sustained yield on their own land, some of them have taken steps to reforest their cut-over lands and nearly all are making an effort to keep fire from their cut-over lands after the slash has been burned. Idle lands bring in nothing to the owner or to the State. The Olympic Peninsula is one of the best places in the United States for the establishment of permanent forest industries.

Largest Steam Boiler

The largest steam boiler ever manufactured or installed in Pacific Northwest is now being fabricated in Seattle and will be installed in Puget Sound Power & Light company's steam electric plant at Renton, Wash. It will have 25,000 square feet of heating surface, will operate under 450 pounds of steam pressure.

James Fagan Undergoes Operation

James P. Fagan, sulphite superintendent at Camas mill of the Crown Willamette Paper Co., underwent a major operation at St. Vincents Hospital, Portland, in May. Latest reports indicate he is doing well.

Position Wanted

as General Superintendent or
Superintendent

Many years' experience in Europe, Canada and United States on Kraft, all lines of Creped Products, Tissues and Cellulose wadding.

Capable of designing and building machines for the manufacture of these products. Wide experience in rebuilding and running mills. Now employed but desires new connection.

Address reply Box 33, Pacific Pulp and Paper Industry, 71 Columbia St., Seattle, Wash.



THE NATIONAL PAPER PRODUCTS COMPANY—PORT TOWNSEND, WASHINGTON

EXPERIENCE COUNTS

IN THE CONSTRUCTION OF PULP AND PAPER MILLS

CHRIS KUPPLER'S SONS have just completed construction on the second unit of the **NATIONAL PAPER PRODUCTS COMPANY'S** kraft mill at Port Townsend, Washington.

By reason of the valuable experience gained in the building of this unit and the plants of the **WASHINGTON PULP & PAPER COMPANY**, the **RAINIER PULP & PAPER COMPANY**, and the **GRAYS HARBOR PULP & PAPER COMPANY**, **CHRIS KUPPLER'S SONS** are well fitted to handle efficiently the construction of pulp and paper mills in the Pacific Northwest.

O. A. KUPPLER
W. R. KUPPLER

G. W. KUPPLER
H. B. KUPPLER

CHRIS KUPPLER'S SONS

SPECIALIZING IN PULP & PAPER MILL CONSTRUCTION

GENERAL BUILDING CONTRACTORS

Established 1889

General Offices: PORT ANGELES, WASH.

When writing to CHRIS KUPPLER & SONS please mention PACIFIC PULP AND PAPER INDUSTRY

The Buflovak Evaporator

The Buffalo Foundry and Machine Co. which supplied the evaporator system for the new 200-ton kraft mill of the National Paper Products Co. at Port Townsend describes the installation as follows:

The quadruple effect Buflovak evaporator with its two concentrators installed for the National Paper Products Co. at Port Townsend, Wash., is known as the vertical rapid circulating type machine, equipped with 2-inch tubes 20 feet long, and is capable of concentrating their black liquor from about 10 per cent to 70 per cent solids.

This concentration is accomplished by introducing the weak liquor in the second effect evaporator of the quadruple effect. From the second effect, it is taken into the third and from the third into the fourth, and is then pumped from the fourth to the first effect by a LaBour pump, where it is concentrated to approximately 50 per cent solids.

From the first effect, it is then pumped to the concentrator, where we are concentrating it to 70 per cent solids.

This concentrator is operating under a steam pressure of 123 lbs. gage, while the vapor produced comes off at around 30 lbs. The first effect evaporator of the quadruple effect is supplied with steam at 30 lbs. which comes from the turbine. The vapors from the concen-

trator coming off at 30 lbs. are partly to be used for heating the liquor that comes from the mill before entering the second effect evaporator. Any excess amount available is then further used in the first effect evaporator and in this way a high steam economy is obtained.

The condensate from the various steam chests is removed by pumps. The condensate from the concentrator as well as the first effect evaporator is returned to the boiler house. The condensate from the remaining effects is used in the process and by special means is absolutely free from the objectionable gases which are injurious to the worker. The vapors created in the fourth effect are led to a barometric condenser which in turn uses a radojet for maintaining the proper vacuum, instead of a vacuum pump.

One of the outstanding features of this type of evaporator is that it occupies a very little floor space, and furthermore that entrainment losses are reduced to a minimum, regardless of how foamy the liquor may be. If any foam is formed, it is formed in the tubes themselves while rising to the top of the evaporator and when the mixture of liquor and vapor enters the separator, where the separation takes place, the liquor has reached a density to make foaming, further impossible. The liquor level in the evaporators, is controlled by float valves.

STATEMENT OF ACCIDENT EXPERIENCE—APRIL, 1929

COMPANY—	Hours Worked	Total Accidents	Frequency Rate	Days Lost	Severity Rate	Standing
Cascade Paper Co., Tacoma	52,930	0	0	0	0	1
Pacific Coast Paper Mills, Bellingham	2,744	0	0	0	0	2
Tumwater Paper Mills Co., Tumwater	1,491	0	0	0	0	3
Inland Empire Paper Co., Millwood	72,999	1	13.7	20	.274	4
Longview Fibre Co., Longview	88,489	3	33.9	39	.441	5
Crown Willamette Paper Co., Camas	280,958	11	39.1	116	.413	6
Fidalgo Pulp Manufacturing Co., Anacortes	22,808	1	43.8	6	.263	7
Fibreboard Products Inc., Port Angeles	52,680	3	36.9	24	.456	8
Everett Pulp & Paper Co., Everett	84,648	5	59.1	69	.815	9
Pacific Straw Paper and Board Co., Longview	14,928	1	67.0	24	1.608	10
Washington Pulp & Paper Corporation, Port Angeles	101,179	7	69.2	69	.682	11
Columbia River Paper Co., Vancouver	61,570	5	81.2	1,230	19.978	12
Rainier Pulp & Paper Co., Shelton	62,103	6	96.6	54	.870	13
San Juan Pulp Manufacturing Co., Bellingham	31,403	4	127.4	66	2.102	14
National Paper Products Co., Port Townsend	54,560	13	238.3	79	1.448	15

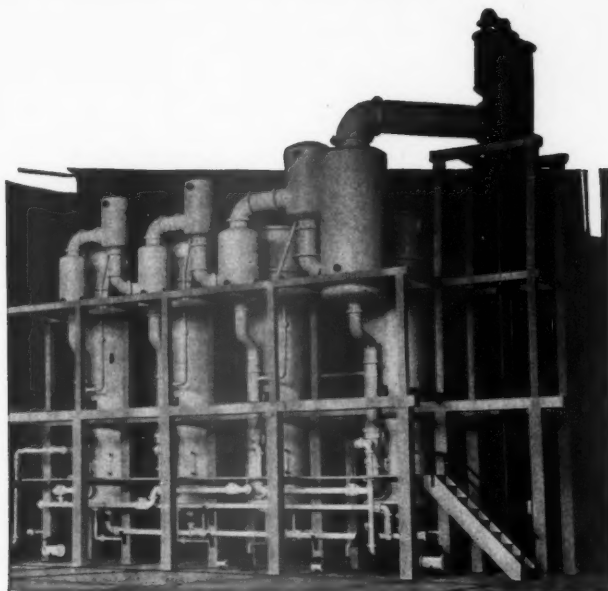
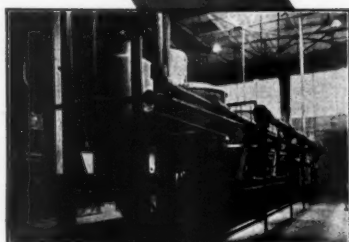
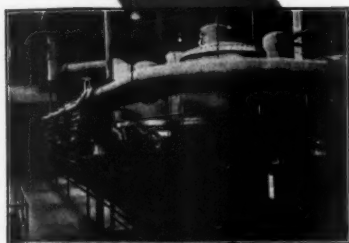
IMPORTS OF PULP WOOD AND WOOD PULP INTO THE UNITED STATES BY COUNTRIES FEBRUARY, 1929

Compiled by the U. S. Department of Commerce Bureau of Foreign and Domestic Commerce
(Figures Subject to Revision.)

COUNTRIES—	PULP WOOD								WOOD PULP			
	Rough				Peeled				Rosed			
	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars
Canada	14,098	109,555	447	4,633	70,628	756,800	37,824	319,981	1,027	10,934	100	936
Total	14,098	109,555	447	4,633	70,628	756,800	37,824	319,981	1,027	10,934	100	936

COUNTRIES—	Mechanically Ground				Chemical Unbleached Sulphite				Chemical Bleached Sulphite				Chemical Unbleached Sulphate				Chemical Bleached Sulphate				All Other Wood Pulp			
	Tons		Dollars		Tons		Dollars		Tons		Dollars		Tons		Dollars		Tons		Dollars		Tons		Dollars	
Austria									98	6,892			101	7,159										
Czechoslovakia																								
Estonia					473	23,668			173	11,787	2,815	138,801	530	38,587										
Finland	702	16,179	7,269	349,499	1,922	104,481																		
France									3,806	283,472														
Germany					408	21,502																		
Lithuania																								
Norway	100	1,325	2,200	124,446					2,351	169,383	1,400	77,640												
Poland and Danzig													334	14,839	277	12,410								
Sweden	50	1,375	31,576	1,642,856					5,076	375,223	9,295	476,517	500	29,680										
United Kingdom					174	14,859																		
Yugoslavia and Albania					39	1,661																		
Canada	11,852	331,089	10,817	538,625	13,303	1,033,075			9,948	612,954	362	35,013	330	24,300										
Total	14,704	349,968	54,665	2,805,077	25,020	1,896,352			23,893	1,327,910	1,669	115,690	330	24,300										

Total imports of all grades of pulp for February, 1929—120,281 tons—\$6,519,297.



New Results from this new type Evaporator

THIS new type evaporator, shown by the accompanying installation views, is installed in the plant of the National Paper Products Company. It is built on an entirely new operating principle and brings about entirely new operating results, in evaporating black liquor. The outstanding feature is that entrainment losses are reduced to the vanishing point. Their existence is negligible. This is true even of foamy liquors. If foam rises up the tubes, it is completely separated from the vapor by a specially designed separator.

Compared with other types, the evaporation per square foot of heating surface is exceptionally high so that the machine actually occupies a very small floor space for its capacity. It is completely equipped with all practical automatic devices so that it may be perfectly operated by one man. The evaporator shown in these illustrations handles upward of 325,000 gallons of black liquor a day, concentrating it from 11 to 70% solids.

Complete information on request

Buffalo Foundry & Machine Co.

1635 Fillmore Ave., BUFFALO, N. Y.

When writing to BUFFALO FOUNDRY & MACHINE CO., please mention PACIFIC PULP AND PAPER INDUSTRY.

Small Contractors Getting Out Pulpwood

A new supply of pulpwood that is being steadily augmented is developing at Shelton, Wash., where the Rainier Pulp & Paper Corp. operates a 130-ton bleached sulphite pulp mill. The mill has been getting the bulk of its supply from the waste of sawmills, much of which reaches the mill in chip form. More recently several small contractors have begun to feed the mill with round wood. The method of these small operators is to work with small crews in the woods on a scale that ranges anywhere up from one sole individual. Delivery is made directly to the pulp mill by truck.

As time goes on and it becomes less easy to skim the cream off the present wood supply of the Pacific Coast it is more than likely that the small pulpwood contractor and the farmer will become an increasingly important factor in feeding the mills with wood. They are able to operate in very small patches where a large operation could not for a moment think of entering. Yet, in the aggregate, the supply from these "little fellows" makes a sizeable woodpile.

There are other merits in such a system. It brings

a closer utilization of the forest resources by reason of finding a market for a great deal of stuff that would never get into any commercial use otherwise. Such a system also serves to spread money about the community in a fashion that smoothes out the peaks of unemployment. Pulp mills run on a steady basis in contrast to the average sawmill operation where four-day weeks are common one month and double shifts are just as common the next month.

The small pulpwood contractor should be encouraged. He may be small, but he is very important and well worth cultivating.

Camas Expansion Program In Abeyance

Active construction on the proposed \$4,000,000 improvement program of the Crown Willamette Paper Co. on its Camas, Wash., mill has not yet begun although the announcement was made several weeks ago. Much interest in the proposed work is being expressed in paper circles, but no further statement has been forthcoming. In the meantime the mill is reported to be running at high capacity to keep pace with orders.

PACIFIC COAST PULP IMPORTS—MARCH, 1929

	Pulpwood		Mechanically		Bleached		Unbleached		Unbleached		Bleached	
	Dollars	Cords	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons
To LOS ANGELES—												
From Sweden			2,950	178			106,040	2,110	21,896	500		
To SAN FRANCISCO—												
From Canada			711	60			2,717	171	4,697	165		
To OREGON—												
From Sweden									20,625	500		
To WASHINGTON—												
From Canada	11,372	1,442			7,148	93	6,016	126				
Total Pacific Coast	11,372	1,442	3,661	238	7,148	93	114,773	2,307	47,218	1,165		

Total pulp imports—March, 1929—All grades—\$172,800; 3,803 tons.

PACIFIC COAST PAPER IMPORTS—MARCH, 1929

	Newsprint		Printing Papers		Writing & Drawing		Greaseproof		Wrapping		All Other
	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Paper Dollars
To LOS ANGELES—											
From Norway	2,605	108,233									
From Sweden	128,383	5,171,786									
From Canada	68,315	2,689,879									
From Japan			150	144							1,304
From France					277	150					1,195
From United Kingdom					51	162					832
From Germany											1,515
From China											12
To SAN FRANCISCO—											
From Sweden	64,894	2,489,120									269
From Canada	21,648	718,780									
From Austria					13	35					26
From France					246	339					786
From Germany			1,195	842	1,321	5,926					2,864
From United Kingdom					26	25					560
From China			4	8	15	96					553
From Japan			75	150	389	781					6,131
From Spain											75
To OREGON—											
From Japan									5	16	28
From France					206	400					309
From Germany											15
From United Kingdom											659
From Canada											174
To WASHINGTON—											
From Canada	410,433	12,520,124			28	86					3,086
From France					50	90					79
From China					11	20					96
From Japan					20	22					2,136
From Finland											9,843
From Germany											897
From United Kingdom											115
Total Pacific Coast	696,278	23,697,922	1,424	1,144	2,653	8,132			5	16	33,559
Total imports of all paper and paper products—March, 1929—\$733,919.											

"All Other Paper" includes all paper not classified independently above, as well as such semi paper products as paper mache, pulp board and manufactures from paper.

*Much of the news print entered in the Washington customs district from Canada is from British Columbia for interior distribution to points in the Mountain States and Southwestern United States.



National Paper Products Co. gets satisfactory results *from* General Refractories products

This new and prominent paper products plant selected General Refractories products for many different applications. In the linings of the lime kilns, ARCOFRAX High Alumina Brick was specified. GREFCO Chrome High Temperature Cement is also giving satisfactory results. In the furnace arches too, General Refractories Brick were specified.

There is a complete line of General Refractories products readily available to meet

any refractory need of the pulp and paper industry.

15 plants with a capacity of over 1,000,000 brick per day are constantly at your service. Descriptive literature gladly sent on request.

A complete refractory service for pulp and paper mills

GREFCO Chrome High Temperature Cement; STANDARD Silica Bonding Cement; every type, standard size or special shape of fire clay refractories; Hand Made, Machine Made, Dry Pressed and G. R. Co. Sizing Process; Silica, Chrome, Magnesite and High Alumina Refractories; also ACIDO, the acid-proof brick. Ample stocks ready for prompt shipment from 15 plants.

GENERAL REFRACTORIES COMPANY

106 South 16th Street, Philadelphia, Pa.

District Offices: Boston Buffalo Chicago Cleveland Detroit New York Pittsburgh San Francisco
Seattle, Washington (Representative—F. T. Crowe) Montreal, Canada (Representative—Webster & Sons, Ltd.)
Havana, Cuba (Representative—Woodward & MacMillan)

Newsprint Production In April

Production in Canada during April, 1929, according to the News Print Service Bureau, amounted to 221,784 tons and shipments to 220,270 tons. Production in the United States was 118,679 tons and shipments 121,548 tons, making a total United States and Canadian news print production of 340,463 tons and shipments of 341,818 tons. During April, 20,950 tons of newsprint were made in Newfoundland and 1,424 tons in Mexico, so that the total North American production for the month amounted to 362,837 tons.

The Canadian mills produced 75,776 tons more in the first four months of 1929 than in the first four months of 1928, which was an increase of 10%. The United States output was 10,331 tons or 2% less than for the first four months of 1928. Production in Newfoundland was 8,224 tons, or 11% more in the first four months of 1929 than in 1928 and in Mexico 1,358 tons more, making a total increase of 75,027 tons, or 6% over the same period in 1928.

During April the Canadian mills operated at 85.5% of rated capacity, United States mills at 81.4% and Newfoundland mills at 102.3%. Stock of newsprint paper at Canadian mills totaled 25,741 tons at the end of April and at United States mills 27,102 tons, making a combined total of 52,843 tons, which was equivalent to 3.4 days' average production.

NORTH AMERICAN PRODUCTION

	Canada	United States	Newfoundland	Mexico	Total
1929—April	221,784	118,679	20,950	1,424	362,837
Four months	840,677	460,731	80,537	6,382	1,388,347
1928—Four months	764,901	471,062	72,333	5,024	1,313,320
1927—Four months	654,264	518,447	66,218	4,744	1,243,673
1926—Four months	581,183	560,846	55,233	4,081	1,201,343
1925—Four months	492,945	504,643	20,942	4,167	1,022,697
1924—Four months	452,322	500,464	21,576	3,832	978,194
1923—Four months	400,993	488,076	20,886	4,000	913,955

Pacific Coast Wood Pulp Exports

During the month of March, 1929, Oregon and Washington exported a total of 2,523 tons of woodpulp valued at \$141,011. This is a slight decrease from the February export of 2,652 tons valued at \$144,440. Export by grade, origin and country of destination follow.

SULPHITE WOOD PULP

From Oregon to United Kingdom	20 tons	\$979
From Washington to Japan	2,046 tons	\$123,892
Total	2,066 tons	\$124,871

OTHER WOOD PULP

From Washington to Italy	52 tons	\$2,395
From Washington to Argentina	300 tons	13,103
From Washington to Canada	105 tons	642

Total

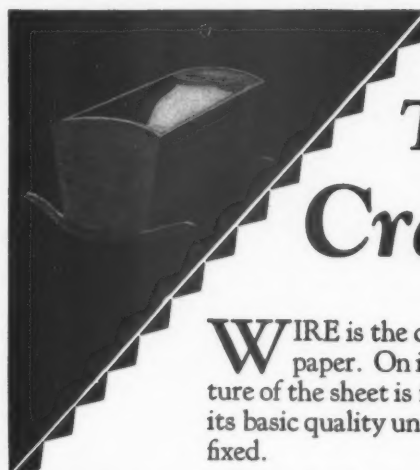
457 tons \$16,140

Total Pacific Coast Pulp Exports, 2,523 tons; \$141,011.

SHIPMENTS OF OVERISSUE NEWSPAPERS

From Pacific Coast Customs Districts, Jan., 1929

From San Francisco		
Country of Destination—	Pounds	Dollars
Central America	86,000	1,150
China	1,642,480	16,932
Orient	881,552	9,264
Philippines	50,000	637
Total	2,660,032	27,983
From Los Angeles		
China	6,388,520	70,816
Orient	368,956	3,941
Japan	112,000	1,176
Philippines	697,000	7,497
Total	7,566,476	83,429
From Washington		
Canada	11,499	566
China	78,400	1,120
Total	89,899	1,686
Total Coast Shipment	10,316,407	113,098



The Cradle

WIRE is the cradle of all paper. On it the structure of the sheet is formed and its basic quality unchangeably fixed.

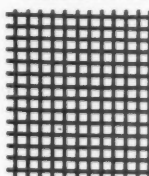
That is why it is profitable to use the most uniform, durable and dependable wire.

That is why leading mills use Tyler Fourdrinier Wires.

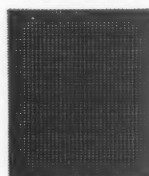
Over a half century of experience and research is woven into every Tyler wire. Special composition rods, special wire-treating processes, weaving on Tyler-designed, Tyler-made looms, assures the highest quality, the most dependable wires it is possible to make.



80 Mesh
Fourdrinier Wire



14 Mesh
Cylinder Wire



60 Mesh
Fourdrinier Wire



12 x 64 Mesh
Corduroy Cloth

TYLER WIRES

Supplied in all widths up to and including 234 inches

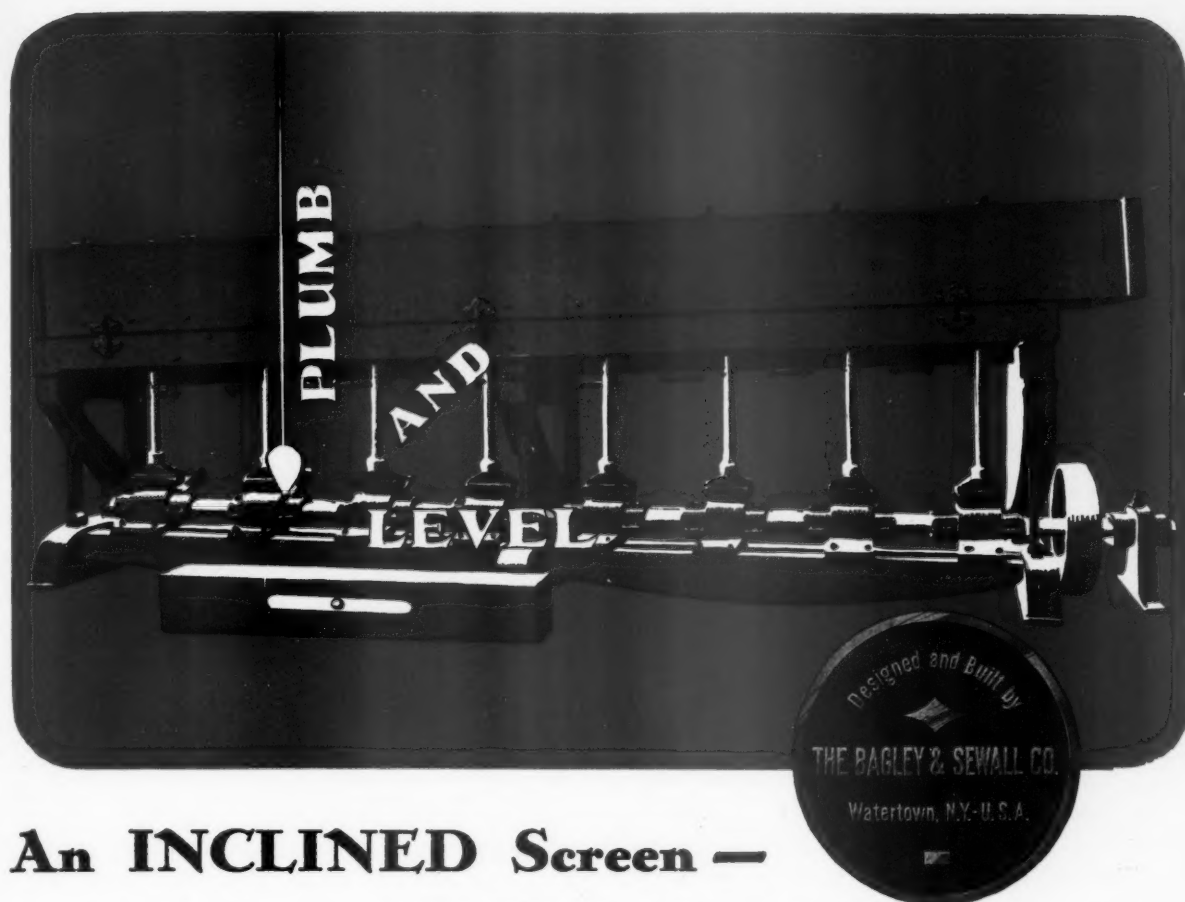
for
screening
WOOD
CHIPS



HUM-MER
Electric
SCREEN

*
Send
for
literature

The W. S. TYLER COMPANY
CLEVELAND, OHIO



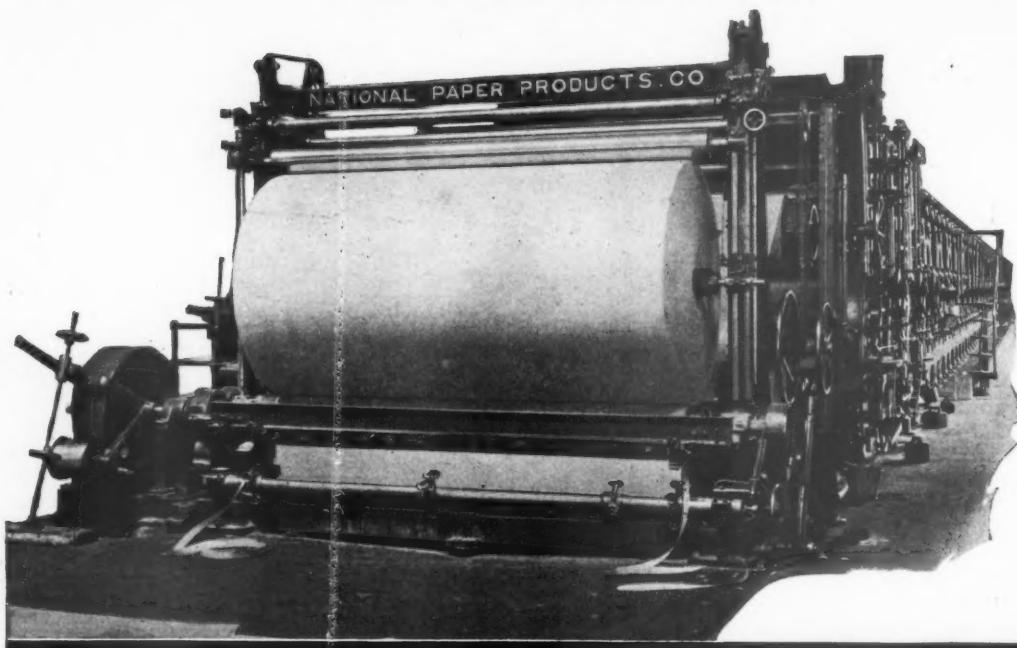
An INCLINED Screen — Not a TILTED Level Screen

You can't make a successful inclined screen by just raising the end of a level one. The patent-protected Harmon Inclined Screen, made exclusively by Bagley & Sewall, is **built inclined**. Advantages?—Piston shafts are **perpendicular**, working straight and true; shoes follow cams unfalteringly, without side slip or excessive wearing friction. Specially ground chilled cams, each operating its own vacuum chamber, give a sharp upward blast that cleans the slots, and a slow downward draw that brings through the maximum amount of stock. **Stock keeps moving** without plugging or overflow, without slugs or slime, without supplemental agitation. Showers are unnecessary, saving water, piping and pumping. Dirt flows off at low end, without raking. All in all—a lot more stock, a lot cleaner stock, a lot less power—a lot more satisfaction.

There's more we'd like to tell you. Write us.

The Bagley & Sewall Co.
Watertown, N. Y.

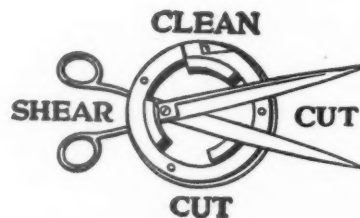
When writing to BAGLEY & SEWALL CO. please mention PACIFIC PULP & PAPER INDUSTRY



The Paper is CUT— Not GROUND Apart

With the Langston Shear Cut you get a sharp, clear cut and even-edged, dust-free rolls. Where the paper is crushed and ground apart, the rolls are dusty, and this dust not only means trouble for the ultimate user, but frequently a direct loss to the paper manufacturer. The Shear Cut is only one of the many Langston features which deserve your careful study before you purchase Slitting and Winding equipment. Ask us for further facts.

SAMUEL M. LANGSTON COMPANY
Camden, New Jersey



LANGSTON SLITTERS

PACIFIC COAST EXPORTS—MARCH, 1929

	Newsprint		Printing		Writing		Greaseproof		Wrapping		Tissues	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
From LOS ANGELES—												
To Mexico	533	55	96	15	250	82	-----	-----	1,936	183	1,653	279
To Central America	-----	-----	-----	-----	928	300	-----	-----	22,126	1,693	44	12
To Australia	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,390	150
From SAN FRANCISCO—												
To Canada	-----	-----	1,815	257	625	160	3,928	375	-----	-----	91	62
To China	140,000	1,470	-----	-----	2,960	350	-----	-----	-----	-----	6,515	863
To Central America	37,626	1,301	-----	-----	145,342	7,393	-----	-----	-----	-----	381	54
To Oceania	1,033	64	-----	-----	-----	-----	-----	-----	-----	-----	250	30
To Australia	23,973	1,779	230	148	31,558	1,487	-----	-----	841	51	-----	-----
To Japan	-----	-----	50	25	299	116	-----	-----	237	17	-----	-----
To Venezuela	-----	-----	-----	-----	13,470	653	-----	-----	-----	-----	520	74
To Philippines	-----	-----	-----	-----	1,736	346	-----	-----	90,848	3,662	8,736	842
To Peru	-----	-----	-----	-----	-----	-----	-----	-----	5,204	198	-----	-----
To Mexico	-----	-----	-----	-----	-----	-----	-----	-----	6,300	450	200	43
To Colombia	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	50	5
From OREGON—												
To China	478,389	18,244	-----	-----	-----	-----	-----	-----	60,988	2,626	-----	-----
To Philippines	808,405	28,548	-----	-----	95,999	4,780	-----	-----	214,791	9,174	-----	-----
To Australia	40,196	2,172	-----	-----	193,795	9,561	-----	-----	-----	-----	-----	-----
To Central America	-----	-----	-----	-----	762	50	-----	-----	-----	-----	-----	-----
To Japan	-----	-----	-----	-----	14,843	697	-----	-----	-----	-----	-----	-----
To Argentina	-----	-----	-----	-----	-----	-----	-----	-----	11,111	1,000	-----	-----
From WASHINGTON—												
To Canada	-----	-----	68,431	5,021	5,707	1,172	2,593	1,056	14,065	832	29,576	1,848
To China	-----	-----	14,461	1,064	56	10	753	202	-----	-----	-----	-----
To Philippines	-----	-----	356,658	20,130	-----	-----	-----	-----	-----	-----	9,109	654
To Australia	-----	-----	42,734	2,504	17,635	1,007	-----	-----	-----	-----	-----	-----
To Orient	-----	-----	-----	-----	50	80	-----	-----	-----	-----	-----	-----
To Japan	-----	-----	-----	-----	656	519	-----	-----	-----	-----	-----	-----
Pacific Coast Total	1,530,155	53,633	484,475	29,164	526,671	28,763	7,274	1,633	428,447	19,886	59,515	4,916

	Board		Building		Boxes & Cartons		Paper Bags		Converted Paper Products		Miscellaneous Paper & Prod.	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
From LOS ANGELES—												
To Mexico	65	16	4,617	376	-----	-----	80	5	728	152	931	-----
To China	-----	-----	8,210	467	-----	-----	-----	-----	-----	-----	673	-----
To Orient	-----	-----	15,000	3,116	-----	-----	-----	-----	40	21	-----	-----
To Canada	-----	-----	-----	-----	299	-----	-----	-----	-----	-----	174	-----
To Philippines	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	134	-----
From SAN FRANCISCO—												
To Canada	3,613	574	-----	-----	113	13	2,257	459	849	184	1,393	-----
To Philippines	26,564	1,286	-----	-----	18,615	3,047	-----	-----	442	215	195	-----
To Australia	139,360	4,577	57,535	2,450	480	129	-----	-----	207	112	8,525	-----
To Colombia	407	119	-----	-----	-----	-----	13,051	643	995	684	-----	-----
To Orient	24,868	214	102,000	3,355	-----	-----	-----	-----	-----	-----	36	-----
To Europe	-----	-----	790	20	-----	-----	-----	-----	-----	-----	-----	-----
To Argentina	-----	-----	15,000	534	-----	-----	-----	-----	-----	-----	1,312	-----
To Brazil	-----	-----	4,000	125	-----	-----	-----	-----	-----	-----	-----	-----
To Peru	-----	-----	5,000	105	-----	-----	59,527	12,107	-----	-----	-----	-----
To China	-----	-----	14,400	403	2,845	440	2,611	349	811	195	764	-----
To Japan	-----	-----	121,530	5,532	-----	-----	-----	-----	80	22	797	-----
To Africa	-----	-----	16,500	1,096	-----	-----	-----	-----	155	81	-----	-----
To Central America	-----	-----	-----	-----	-----	-----	3,744	205	1,899	767	34	-----
To Mexico	-----	-----	-----	-----	-----	-----	200	55	255	79	297	-----
To Oceania	-----	-----	-----	-----	-----	-----	260	23	-----	-----	579	-----
To Venezuela	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	44	-----
From OREGON—												
To Philippines	-----	-----	-----	-----	-----	-----	5,483	625	1,320	99	-----	-----
To Australia	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	6,725	-----
From WASHINGTON—												
To Canada	267,189	9,126	-----	-----	1,109	161	2,129	570	5,332	940	3,455	-----
To Japan	-----	-----	-----	-----	121	23	-----	-----	1,272	192	1,446	-----
To China	-----	-----	-----	-----	2,920	367	-----	-----	34,780	1,913	2,016	-----
To Orient	-----	-----	-----	-----	-----	-----	-----	-----	150	100	-----	-----
To Philippines	-----	-----	-----	-----	-----	-----	-----	-----	39	16	2,573	-----
To Australia	-----	-----	-----	-----	-----	-----	-----	-----	1	1	1,921	-----
Pacific Coast Total	462,066	15,912	364,582	17,579	26,203	4,180	89,342	15,041	49,355	5,773	34,124	-----

Total all paper exports for month of March, 1929, 2,014 tons \$230,604

Total all paper exports for month of February, 1929, 3,551 tons \$306,012

Total all paper exports for first three months, 1929, 10,487 tons \$994,506

CLASSIFICATIONS—For convenience of presentation, some classifications have been combined, as follows: "printing," includes book (not coated), cover and surface coated paper; "greaseproof" includes water-proof; "tissues" includes crepe, tissue, paper towels, napkins and toilet; "board" includes boxboard, Bristol, Bristolboard and other paper board and strawboard; "building" includes sheathing, and other building paper; "writing" includes fancy papeteries and other writing; "converted paper products" includes envelopes, cash register rolls, index file and other office

forms; "miscellaneous" includes blotters, paper hangings, vulcanized fibre sheets, strips, rods and tubes, manufactures of vulcanized fibre and other paper products. **COUNTRIES**—Under the classification "Central America" are included all of the Central American countries and Cuba. "South America" includes only the following South American countries: Ecuador, Paraguay, Bolivia, Uruguay, and the Guianas; other South American countries are classified separately. "Orient" includes all the Asiatic countries with the exception of China and Japan, which are separately classified. New Zealand is included under "Australia."

Lumber Carrier Adds Pulp Loadings

The Quaker vessel West Montop cleared Grays Harbor on May 17 carrying 1,000 tons of pulp manufactured at the Grays Harbor Pulp & Paper plant, for delivery on the eastern seaboard. Many lumber carriers have added pulp to Grays Harbor loadings since the pulp mill started operations in Hoquiam.

B. C. Lime to Grays Harbor

The first trip of the Canadian coaster Rochelie of the Kingsley Navigation Co. since she was wrecked in British Columbia waters, was to Grays Harbor. She arrived on May 16 with 300 tons of lime from Blubber Bay, B. C., and discharged at the Grays Harbor Pulp & Paper Co.

Paper and Pulp Industry in March, 1929

The total paper production in March, according to identical mill reports to the American Paper and Pulp Association, was 591,204 tons as compared with 542,076 tons in February and 598,591 tons in January. The March, 1929, production was 591,204 tons as against 577,955 tons in March, 1928, an increase of 2.3%. All grades excepting newsprint, wrapping and hanging registered increases in monthly production over last year. Paperboard showed an increase of 10.5% over March, 1928, production while bag increased 10.2%, felts and building 10.5%, tissue 1.3% and writing 3.6%. The following grades registered production decreases in March, 1929, as against March, 1928: newsprint 5.8%, wrapping 8.8% and hanging 40%. Book paper production during both February and March was approximately at the same level as last year.

Shipments of all grades, excepting hanging, registered increases over March, 1928. The total shipments of all grades was about 6% above the total for March of last year.

Stocks on hand registered a decrease as compared with February in all but the tissue and hanging grades. Compared with a year ago, the only inventory increases were in hanging and paperboard, the latter showing the more substantial increase.

Identical pulp mill reports for March, 1929, showed that the total production of all grades of pulp was about 3% greater than March, 1928. Mill consumption was about 1% greater and shipments to the outside market 1% greater than during the corresponding month last year. March, 1929, production totaled 226,520 tons against 202,792 tons in February and 230,729 tons in January.

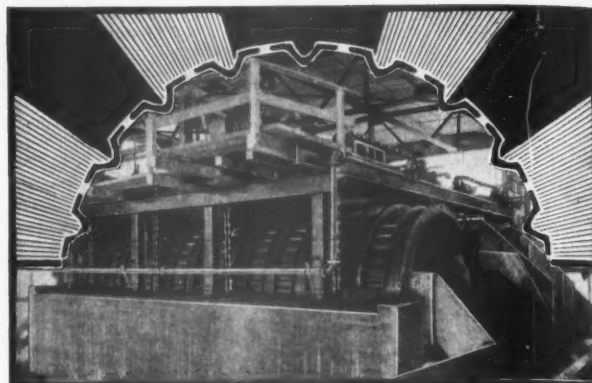
Total stocks on hand at the identical mills reporting, registered a decrease of 8.4% as compared with last year. All the individual grades showed decreases in inventory as compared with the same time last year.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF MARCH, 1929

GRADE	Production Tons	Shipments Tons	Stocks on Hand End of Month— Tons
Newsprint	114,586	120,003	30,534
Book	101,119	103,110	46,813
Paperboard	222,186	226,570	50,017
Wrapping	52,295	55,123	49,360
Bag	15,681	16,360	7,319
Writing	33,078	35,043	37,898
Tissue	12,634	12,552	8,746
Hanging	4,040	3,942	2,891
Felts and Building	6,685	7,639	1,246
Other Grades	28,900	28,580	18,011
Total—All Grades	591,204	608,922	252,835

REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF MARCH, 1929

GRADE	Production Tons	Used During Month—Tons	Shipped During Month—Tons	Stocks on Hand End of Month— Tons
Groundwood	95,765	86,322	2,658	91,803
Sulphite News Grade	38,293	35,599	2,447	8,728
Sulphite Bleached	26,820	24,442	2,338	2,521
Sulphite Easy Bleaching	3,455	3,156	285	743
Sulphite Mitscherlich	6,178	5,612	713	949
Sulphate Pulp	30,942	25,247	5,823	4,065
Soda Pulp	25,026	16,567	8,875	4,197
Pulp—Other Grades	41	12	38
Total—All Grades	226,520	196,945	23,151	113,044



IS YOUR BARKING CAPACITY GUARANTEED?

The U-Bar Barking Drum is guaranteed for two years at a minimum speed of 7½ R.P.M. (10 ft. diam.) running half-full of wood at an average of 3,000 working hours per year. This is all in addition to the usual guarantee of workmanship and materials.

HOW THE U-BAR GUARANTEE INSURES BIG PRODUCTION

This guarantee insures BIG and sustained production. Three factors govern capacity: Interior Surface, Volume and Speed. Examine the U-Bar Drum from these angles:

1. *Interior Surface:* U-BARS bark more quickly and cleanly with no unnecessary loss of wood fibre.

2. *Volume:* You can keep a U-Bar Drum HALF-FULL of slabs or logs all the time—a 10'x30' U-Bar Drum, for instance, carries a working load of five cords of wood. Think of it!

3. *Speed:* 7½ R.P.M. are guaranteed in the U-Bar Drum and many mills increase their capacity greatly by stepping this up to 10 R.P.M. Speed is important.

When you consider barking drums, insist on a capacity guarantee.

THE MORTERUD SYSTEM

Production records of the Union Bag and Paper Mills attest to the efficiency of the Morterud System of Indirect Soda and Sulphate cooking. It produces an *even cook* and a greater yield with forced circulation of preheated liquor. Steam is not introduced directly into the digester but circulates through a series of seamless steel pipes and the condensed water is pumped back to the boilers. Therefore there is *no dilution* in digester and less steam is used in the evaporation of liquor.

THE GIANT NEKOOSA BARK PRESS

Make a steam generating asset out of your bark disposal problem with this wonderful Bark Press. It reduces the water in bark to 55% bone dry—which is almost natural water content. Simple operation. Strong and rugged construction. Surprisingly great economies result from the use of this machine.

Full Details Sent on Request

Fibre Making Processes, Inc.

CHICAGO, U. S. A.

Canadian Barking Drum Co., Ltd., Drummond Bldg., Montreal

BARKING
U-BAR
DRUMS

Grays Harbor Pollution Not Settled

The charges made recently by sportsmen in Grays Harbor county that acid discharges from the pulp mill of the Grays Harbor Pulp & Paper Co. at Hoquiam were blinding, maiming and killing game and food fish, are in the hands of the state department of fisheries.

At the behest of the sportsmen, who independently conducted a number of tests in the waters around the pulp mill, the Grays Harbor county game commission took up the proposition. The commission employed two chemists to test the water. These chemists reported to the commissioners that they found an acid substance in the water that was injurious to fish but they did not either openly, nor by insinuation, lay the blame at the door of the pulp plant.

The findings were turned over to the state department of fisheries and the state department then sent chemists to Grays Harbor to make tests of their own. Their analysis of the waters in the immediate vicinity of the pulp mill did not show the waters polluted with acids to the point of injuring fish. However the state department has promised the county game commission of Grays Harbor county that it would continue the investigation. Latest investigations have tended to exonerate rather than pile blame on the pulp firm.

One of the outstanding bits of evidence in favor of the pulp company in this fight is included in statements of a number of old time residents and fishermen of Grays Harbor county.

These people recall a time about 25 years ago—long before the advent of pulp mills in the Grays Harbor region, when the fish, particularly the steelheads, were similarly afflicted. They became blinded, their flesh rotted away from a mysterious cause and most of them eventually died. This condition lasted just one year. The following year the steelhead were as sound and firm as ever. If the fish now are afflicted by this unknown malady, these old timers say that one year will tell the tale. If the fish continue next year to die from unknown causes it will be evidence that a foreign and injurious substance is being released into the water.

The pulp company men answer the charges by saying that waste liquors of a pulp mill merely deplete the oxygen in the water but do not reduce it sufficiently to kill fish in a body of water the size of Grays Harbor. On the other hand sportsmen claim they took live fish in nets and exposed them to the waters about the point of discharge for several hours and that all of them died.

Power Company Is Attacked

The fight against the Grays Harbor Railway & Light Co. in Aberdeen, Wash., appears destined to continue, in spite of the new rate schedule recently put out by the company. This new schedule only temporarily silenced the anti-power faction.

The fight was for lower rates on power throughout the city, and to industries. The enemies of the power company claimed that the high power rates drove the Hooker Electro-Chemical Co.—which built at Tacoma—out of Aberdeen and had the same effect on other industries. The Hooker people denied this. The new schedule of rates do not reduce the rates so much for the user of an average amount of power, but they offer additional power cheaper.

An indication that the citizens of Aberdeen are decidedly not in sympathy with the power company is seen in the recent freeholders election. At a special election the city elected 15 freeholders to draw up a first-class charter, Aberdeen being large enough to enter

that classification. Rogan Jones, who inaugurated and has led the fight against the power company, was one of 45 candidates for the board and he received more votes than any other candidate. In general, anti-power company nominees polled the heaviest. Jones and his group want the city to build its own hydro-electric power plant, and take over the company's distribution system.

International Paper Earnings Fall

For the fifth successive quarter net revenue of the International Paper Co. available for dividends on its stock has shown a decline from the preceding quarter. This is revealed in the company's consolidated earnings statement for the first quarter of 1929, recently released. President A. R. Graustein in a statement accompanying the report predicts that a reversal of the trend is indicated by greater earnings in March than in January, 1929. He said further: "The improvement shown in the March earnings is expected to be maintained during the current year."

The condensed financial statement follows:

INTERNATIONAL PAPER AND POWER COMPANY AND SUBSIDIARY COMPANIES	
Consolidated Earnings and Surplus Statement for Quarter Ending March 31, 1929	
	Quarter Ending March 31, 1929
Total Revenue	\$ 4,627,211.41
Less	
Depreciation	1,818,027.68
Interest on Funded Debt	1,878,520.83
Amortization of Discount on Funded Debt	119,553.05
Reserve for Income Taxes	35,000.00
	\$ 3,851,101.56
Net Revenue Available for Dividends	\$ 776,109.85
Dividends on Preferred and Minority Common Stocks of Subsidiaries	295,686.90
Net Revenue added to Surplus	\$ 480,422.95
Surplus—January 1, 1929	18,180,331.93
	\$18,660,754.88
Less—Dividends on International Paper and Power Com- pany Stocks—	
Dividend on Preferred Stock	1,606,858.50
Dividend on Class "A" Common Stock	594,222.60
Total Dividends	\$ 2,201,081.10
Surplus—March 31, 1929	\$16,459,673.78

How To Make Sure of Getting Your Copy

From Francis Wright, of Smith, Davidson & Wright, Ltd., leading paper merchants with headquarters at Vancouver, B. C., and branches in several other Western Canada cities PACIFIC PULP & PAPER INDUSTRY receives the following tribute:

"The magazine is a credit not only to the publishers, but also to the paper industry on the Pacific Coast and I wish to take this opportunity of congratulating you on the success you have achieved with it.

"In order to ensure my getting the magazine whether I am away from the city or not, I am going to ask you to put me on your mailing list and have it sent to my dwelling. I enclose herewith express order in payment of the subscription price." Many other readers of PACIFIC PULP & PAPER INDUSTRY are finding it preferable to subscribe for a personal copy to be mailed to the home address rather than to depend entirely upon the "office" copy that sometimes "gets away."

Louis Bloch Pays Northwest Visit

Louis Bloch, chairman of the board of the Crown Zellerbach Corp., has been spending some time recently in making a visit to Northern properties of the company. His trip included a visit to the newly completed 200-ton kraft mill of the National Paper Products Co. at Port Townsend, Wash.

Canadian Exports of Pulp and Paper

April, 1929

Pulp and paper exports in April were valued at \$13,269,297, according to the report issued by the Canadian Pulp and Paper Association. This was an increase of \$868,828 over the total for April, 1928.

Wood-pulp exports were valued at \$3,155,350 and exports of paper at \$10,113,947, as compared with \$3,013,864 and \$9,386,605 respectively in April, 1928.

For the various grades of pulp and paper details are as follows:

	April, 1929		April, 1928	
	Tons	\$	Tons	\$
PULP—				
Mechanical	11,763	342,652	14,076	407,891
Sulphite Bleached	18,146	1,424,190	16,060	1,250,038
Sulphite Unbleached	14,174	708,957	14,939	751,641
Sulphate	10,531	627,837	9,459	560,786
Screenings	2,924	51,714	2,075	43,508
	57,538	3,155,350	56,609	3,013,864
PAPER—				
Newsprint	162,381	9,747,536	140,011	9,068,396
Wrapping	714	79,392	669	70,699
Book (cwt.)	4,276	33,799	2,336	20,595
Writing (cwt.)	1,763	14,735	108	773
All other		238,485		226,142
		10,113,947		9,386,605

For the first four months of the year the total value of the exports of pulp and paper amounted to \$63,062,391 which was an increase of \$1,387,798 over the total for the corresponding months of 1928.

Wood-pulp exports for the four months were valued at \$14,013,625 and exports of paper at \$49,048,766, as compared with \$14,591,245 and \$47,083,348 respectively in the four months of 1928.

Quantities and values for the four months of 1929 and 1928 were as follows:

	Four Months 1929		Four Months 1928	
	Tons	\$	Tons	\$
PULP—				
Mechanical	51,551	1,403,197	54,385	1,473,313
Sulphite Bleached	87,486	6,707,548	83,712	6,311,996
Sulphite Unbleached	59,351	2,966,742	69,370	3,525,024
Sulphate	46,173	2,767,300	52,688	3,114,191
Screenings	8,791	168,838	8,520	166,721
	253,312	14,013,625	268,675	14,591,245
PAPER—				
Newsprint	776,064	46,949,419	697,051	45,030,742
Wrapping	5,206	568,324	5,666	620,902
Book (cwt.)	27,667	226,386	19,335	156,517
Writing (cwt.)	3,005	25,287	1,633	14,728
All other		1,279,350		1,260,459
		49,048,766		47,083,348

Pulpwood exports in the first four months of 1929 amounted to 399,972 cords, valued at \$3,575,602 which was a considerable decline from the 537,459 cords, valued at \$4,770,423, exported in the first four months of 1928.

New Washington Hotel

SEATTLE

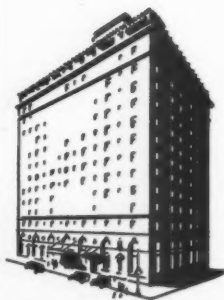
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Excellent Food

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Everything"

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From \$3

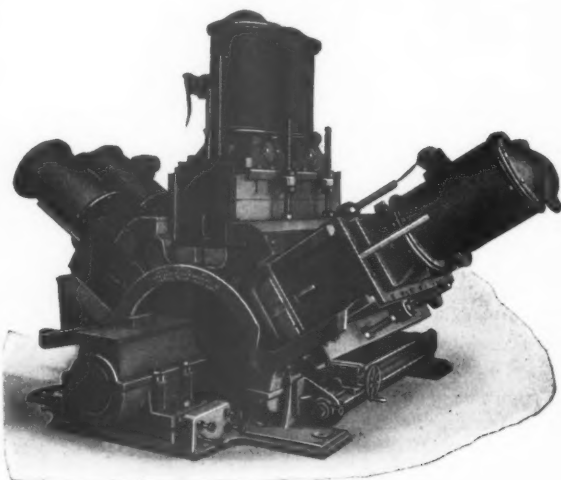
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Capacities 15-18 tons.

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TURNERS FALLS, MASS.

Hammermill Announces Personnel Changes

Several advancements in the executive personnel of the Hammermill Paper Co. were made at a meeting of the board of directors, held on May 14. Norman W. Wilson, vice-president of the Hammermill organization since 1914, was made first vice-president and general manager.

The three new vice-presidents who were created are W. F. Bromley, secretary of the company, who now becomes vice-president and secretary; W. T. Brust, assistant treasurer, who now becomes vice-president and assistant treasurer; and C. W. Chabot, director of distribution, supervising sales and advertising activities, who now becomes vice-president in charge of distribution. Mr. Chabot was also elected to the Hammermill executive committee which was increased from five to six members.

Ernst R. Behrend and Dr. Otto F. Behrend, founders of the Hammermill Paper Co., continue as president and treasurer respectively.

The Hammermill company holds an interest in the Grays Harbor Pulp & Paper Co. at Hoquiam, Wash., where a new fine paper unit is now being constructed to be in production some time during the present summer.

Fraser Steps Into Double Harness

James D. Fraser, chemist in the employ of the Grays Harbor Pulp & Paper Co. at Hoquiam, and Miss Margaret Virginia Henderson, daughter of Mr. and Mrs. Einar N. Henderson and a graduate of the University of Washington, were married in Hoquiam June 8.

Grays Harbor Pumping Station Completed

The new pumping station of the Grays Harbor Pulp & Paper Company on the Wishkah river, located above the bridge on the road connecting the E. Hoquiam and the Wishkah river highways, was completed and ready for use on June 1. Construction work on the station and the pipe line was rushed to completion by crews under the direction of Parker-Schram Co., Portland contractors, while the transformer bank was completed by the Grays Harbor Railway & Light Co.

The water supply unit on the Wishkah is to be used as a standby to the main East Hoquiam river water system, which the company has had in operation for about a year. It is capable of delivering as much as 10,000,000 gallons of water a day and will be used only in case the East Hoquiam proves inadequate to care for the needs of the plant during dry seasons.

Plans for Production of Artificial Silk

According to a Finnish provincial paper, Kommeraseradet Raf. Haarla, of Tammerfors, chief of the Haarlan Paperithedas O.-Y. and the Haarlan Selluloosayhtio, is planning to take up the production of artificial silk in Finland. It is rumored that the last-named company's sulphite mill at Lievestuore will be enlarged by the addition of another sulphite plant for the production of silk pulp, in addition to which it is said to be the intention of Kommeraseradet Haarla to build a spinning mill for artificial silk as well as a cellophane and lacquer factory at Tammerfors. In each place, it is said, the plant will cost 30 million Finmarks. It is believed that the building of the sulphite mill will start next autumn.

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